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Living in prison: Evaluating the deprivation and importation models of inmate adaptation

Lisa Danielle Velarde

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LIVING IN PRISON: EVALUATING THE DEPRIVATION AND IMPORTATION MODELS OF INMATE ADAPTATION

by

Lisa Danielle Velarde, M.A.

A Dissertation Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy

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ABSTRACT

The purpose of the present study is to broaden knowledge in the area of adjustment to incarceration. Clemmer (1950) proposed that a process known as prisonization develops as inmates adjust to the arduous circumstance of incarceration. Previous research has compared two competing models of adaptation, known as importation and deprivation, as predictors of prisonization. Given that Clemmer (1950) originally hypothesized that prisonization serves as a method of adjusting to the prison environment, the present study explored the relationships among the importation model, the deprivation model, prisonization, and adjustment. In an attempt to take into consideration both person and environmental factors, it was hypothesized that an integration of the importation and deprivation models would explain more of the variance in adjustment and prisonization levels than models emphasizing either personal variables or environmental influences alone. Second, based on a failure of previous research to include measures of personality in the examination of the importation model, it was hypothesized that inclusion of a comprehensive personality measure of psychological type (MBTI-theta scores) would increase the explanatory power of the importation model. Finally, it was hypothesized that inclusion of psychological and emotional measures of perceived distress could account for more of the variance than the traditionally used measure of disciplinary infractions, as relatively few inmates on average receive disciplinary write-ups on a regular basis. Results supported the hypothesized relationships. Specifically, the integrative model had a better fit to the data.
than either the deprivation model or the importation model independently. In addition, self-reported levels of perceived distress accounted for a better fit to the data than number of disciplinary infractions, suggesting that a combination of emotional and behavioral indices account for more of the variance in adjustment than either factor separately. Prisonization was found to mediate the relationship between importation and deprivation variables and behavioral measures of adjustment, but was not found to significantly mediate the relationship between adaptation variables and levels of perceived distress. Last, the inclusion of personality factors, namely psychological type, significantly contributed to the overall understanding of adjustment to incarceration in the present study.
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CHAPTER 1

Introduction

With the growing rates of incarceration in nearly all areas of crime, a reemergence of interest has developed in the study of prison policy and prison reform. With this emergence researchers have begun to focus on the ways in which individuals adapt and cope with the negative or stressful effects of incarceration. This area of study has become ripe as prisons are increasingly operating under maximum capacities and inmates often describe the prison environment as deleterious. The idea of exploring the factors that contribute to varying levels of inmate adjustment largely grew out of a study conducted by Haney, Banks, and Zimbardo (1973). This pioneering study attempted to examine the possible effects that exposure to a simulated prison environment may have on a normal population of individuals. This study, commonly referred to as the Stanford Prison Experiment, was one of the first clear-cut examples of how stressful situations can lead to negative influences on the physiological, psychological, and emotional functioning of individuals. Results of this study were unexpected in that they found that "normal" individuals, when placed in highly stressful roles, soon began to behave in ways they themselves found to be unusual and uncharacteristic. For example, many individuals assigned to play the role of "prison guard" soon began to behave cruelly and aggressively toward those assigned to the "prisoner" role. In addition, many
individuals assigned to the “prisoner” role clearly became either overly submissive or withdrawn, or outwardly defiant toward “prison guards.” One of the most telling outcomes of this experiment was that the study was forced to be discontinued much earlier than originally anticipated due to unusually high levels of stress and anxiety experienced by many of the subjects. This early research has led to a large number of studies focusing on coping in stressful situations in general and adjusting to the realities of prison life in particular (Clements, 1979; Clemmer, 1950; Cullen, 1995; McEwan, & Knowles, 1984; Paterline & Petersen, 1999; Thomas, 1975; Thomas & Zingraff, 1976).

Along with the growing body of research illustrating the enormous power of situations, the Stanford Prison Experiment (1973) is often cited as a demonstration of the ways in which social contexts can influence, alter, shape, and transform human behavior. In addition, the Stanford Prison Experiment has helped to extend the conceptual relevance of situational variables into two very different domains. On one side, researchers have guided their research efforts in the direction of examining the coercive power that legal institutions, such as the criminal courts, and more specifically, prison populations, may have on the individuals that comprise them (Haney, 1993a, 1997b, 1997c, 1998; Haney & Lynch, 1997). Furthermore, researchers following this line of research have examined the importance of situational factors in explaining and reducing crime (Haney, 1993b, 1997a). The second domain has explored the psychological aspects of prison life that may lead to the inmate’s perception that his ability to function adequately has been diminished in some way or may serve to undermine his overall potential (Brodt & Zimbardo, 1981; Zimbardo, Pilkonis, & Norwood, 1975). Furthermore, researchers working along these lines have examined the
ways in which stressful social dynamics can distort individual judgment and influence behavior in a negative direction (Zimbardo & Anderson, 1993).

As rates of incarceration continue to grow (Cahalan, 1986; Camp & Camp, 1997; Mauer, 1992), issues surrounding the ability or inability to cope with prison life have become increasingly important. The consensus appears to suggest that institutions such as prisons, as well as the individuals that comprise them, have difficulty functioning properly when at maximum capacity (D’Atri, 1975; Hamm, 1995; Paulas, Cox, & McCain, 1977). In their approach to treating inmates, prisons throughout the nation are increasingly stepping away from the “punitive” philosophy of traditional penitentiaries and are moving toward a philosophy of “rehabilitation” being championed by more contemporary correctional centers. However, with the lessons learned from the riots at both Attica, NY, and Santa Fe, NM, as well as the much more recent riots during the summer of 1999 in St. Martinsville, LA, and Angola, LA, it remains clear that issues such as overcrowding and poor inmate adjustment continue to be a problem. These are exceedingly difficult times, and correctional administrators are facing perhaps the greatest challenge of their careers: managing inundated “warehouses” of increasingly younger and more violent inmates during times of fiscal restraint and cutbacks (Haney & Zimbardo, 1998). A full appreciation of inmate adjustment patterns in such a social and organizational climate is necessary to understand today’s modern prison (DeRosia, 1998).

Since the Stanford Prison Experiment, as well as the companion research focusing on individual compliance conducted by Milgram (1974), the impact of the prison experience on inmate adjustment and adaptability has been a focus of study.
among sociologists, psychologists, historians, and criminologists. Researchers have reached contradictory conclusions regarding the harmful effects of inmate imprisonment (Haney & Zimbardo, 1998). Some have argued that the pains of imprisonment are so acute as to cause irreparable damage. Others point to evidence showing that most inmates have very little problem adjusting to confinement, especially after the initial shock has subsided. Recent studies on adjustment to prison (Clear et al., 1992; Ivanoff & Jang, 1991; Megargee & Carbonell, 1985) show that the inmate response to imprisonment is not uniform, all inmates do not respond alike. Literature (Clemmer, 1950, 1958; DeRosia, 1998) on prison adjustment behavior has also demonstrated that an inmate’s personal traits and resources help to shape the individual adjustment response.

In an attempt to begin examining inmate patterns of adaptability to a stressful environment, Clemmer (1950) developed the theory of prisonization that helps to explain the process that some inmates may undergo when entering prison. Prisonization is defined or known as the process in which inmates “begin to adopt the folkways, mores, customs, and general culture of the inmate subculture.” More specifically, prisonization can be thought of as a uniting, based on a common belief system, that inmates begin to develop as a means of coping with the stressors of confinement. In an effort to band together, inmates of varying levels of prisonization unite in opposition against the oppressive organization or administration that they believe are responsible for their confinement. Clemmer’s (1950) classic study described this inmate subculture as resistant to the administrative power of the institutional organization. Clemmer argued that this uniting of inmate standards against the formal prison administration
serves as a useful method for reducing the pressures caused by exposure to the institutional environment. Inmates at similar levels of prisonization are thought of as having a “support system” within the prison walls that helps the individuals to adjust adequately to the arduous prison experience. In essence, according to Clemmer’s theory, prisonization serves as a mediating effect in one’s ability to adjust sufficiently to the prison environment. However, difficulty in the theory arises partly due to the way in which adjustment is typically defined among prison administrators. Adjustment has traditionally been defined solely on the basis of behavioral measures. Inmates who have committed fewer behavioral disruptions have generally been considered to be well adjusted. Inmates high in prisonization, while members of an inmate subculture, are also the precise individuals typically labeled as maladjusted by the administration, due to their continued resistance to formal rules, increased behavioral disruptions, and failure to participate in institutional privileges such as recreational activities and treatment or educational programs. Moreover, although Clemmer hypothesized that the process of prisonization is adaptive and may increase one’s ability to adjust to incarceration, the variables used to predict levels of prisonization have rarely been applied directly to subjective reports of perceived levels of distress.

Clemmer’s research later incited one of the more stimulating debates in criminological literature between two theoretical models that attempt to predict the factors that account for prisonization (Paterline & Petersen, 1999). The deprivation model of inmate adaptation emphasizes the importance of the pressures and problems caused by the experience of incarceration or the deprivations of the institutional environment in the creation of the inmate subculture (Sykes & Messinger, 1960;
Thomas & Petersen, 1977; Tittle, 1972). The importation model, on the other hand, emphasizes the effects that preprison socialization and experience can have on the development of prisonization (Irwin & Cressey, 1962). Due to criticisms of both models, a consensus among researchers has emerged, promoting the integration of both theories into one model (Paterline & Petersen, 1999; Thomas, Petersen, & Zingraff, 1978).

While support has been found for each model, many studies have consistently found that the integrative model of inmate adaptation explains more of the variance in prisonization than either model separately (Bumberry & Grisso, 1981; Flanagan, 1981; McCorkle, Miethe, & Drass, 1995; Sorensen, Wrinkle, & Gutierrez, 1998; Thomas, 1977). Despite the fact that research has supported the need to integrate the deprivation and importation models of adaptation, the deprivation model has continued to received more of the attention in research studies. Although these studies have been useful in understanding factors that lead to differing levels of prisonization, few studies have extended this research in an attempt to explain the broader issue of adjustment to incarceration.

The deprivation model has previously been criticized (Glaser, 1964; Irwin & Cressey, 1962; Schrag, 1954) for its inability to account for individual differences in adjustment levels. A possible explanation for some of the criticisms of the deprivation model may be due to the way researchers have typically defined adjustment in this model. Adjustment has commonly been defined and measured almost solely on the basis of behavioral measures. For example, those inmates with larger numbers of rule infractions have been described as maladjusted, but those inmates with little to no
problems in the area of misconduct have been labeled as well-adjusted. (Megargee & Carbonell, 1985; Panton, 1958, 1962; White, 1981). Outside the prison setting, adjustment is generally given a more global definition, including but not based entirely on behavioral indices. For example, Gove (1993) uses the influence of both behavioral and mental components in its definition of adjustment. Here, adjustment is defined as “to bring oneself or especially one’s acts, behavior, and mental state into harmony with changed conditions or environments.” The study of adjustment in correctional research has consistently failed to include psychological and affective components in its definition of adjustment. Researchers investigating both the deprivation and importation models have focused almost exclusively on their influence on the development of levels of prisonization. Based on this apparent gap in the examination of coping and prisoner abilities, it appears that the next step is to expand the investigation of these two models to inmate levels of perceived adjustment.

Like the deprivation model, the importation model has also limited the variables used in the investigation of prisonization. The importation model argues that preprison experiences, demographic makeup, and personality variables influence levels of prisonization and adaptability. Proponents of the importation model recognize and attempt to take advantage of the fact that inmates do not enter correctional institutions without having been exposed to socialization processes and personal experiences which influence the quality of their adaptations to confinement (Thomas & Zingraff, 1976). However, most studies have addressed only one half of the importation model. For example, preprison experiences, such as educational attainment, occupational attainment, social class, and previous incarcerations, as well as demographic makeup
such as gender or ethnicity, have been hypothesized to influence an individual's perception of how stressful the prison environment may be (Sorensen, Wrinkle, & Gutierrez, 1998; Thomas, 1977). Only one study has attempted to incorporate measures of disposition or personality into the investigation of the influence of the importation model (Paterline & Petersen, 1999). Due to the limited definition of preprison experiences, an expansion of the importation model incorporating variables related to an individual's personality, interests, and values appears to be the next logical step in this area of research. Zamble and Porporino (1988) for example, argued that the great majority of theorists have ignored how individuals with particular personality characteristics or self-conceptions react to the conditions or situations of prison life.

The purpose of the present study is to expand the scope of correctional literature in an attempt to understand more thoroughly varying levels of inmate adjustment to incarceration. More specifically, the current study attempts to broaden the scope of adjustment research in prison by incorporating variables that examine personality characteristics that have received little attention in this area of research. The present study seeks to examine the ability to adjust to incarceration through the lens of theoretically derived models of inmate adaptation. It is proposed that the ability to function well while incarcerated is better explained through an integrative person-environment fit model rather than by a separation of these influences.

Statement of the Problem

The purpose of the present study is to expand correctional research by more thoroughly investigating institutional adjustment through the lens of theoretically
derived models. Traditionally, the definition of adjustment has been based on the inmates' ability and willingness to comply with the rules set forth by administrators for their incarceration (Coe, 1961; Fox, 1958; Panton, 1979b; Panton & Kiefer, 1980; White, 1981). A number of specific rules and guidelines are set in place for the protection of the community and the ease in management of the institution. The standard definition of adjustment in these settings focuses primarily on those individuals who are consistently committing rule infractions, or oppositely, have behaved in such a way as to be labeled the "good" inmate. However, under this definition behavioral outcomes are typically used as the only measure of adjustment.

Although behavioral measures of adjustment are an obvious choice for focus in settings such as prisons, the current definition fails to take into account any difficulties with adjustment that individuals may be having but are not severe enough to lead to outward behavioral disobedience. Moreover, this definition fails to account for dispositional methods of dealing with one's problems. Disposition refers to one's accustomed attitudes and moods in reacting to life (Gove, 1993, p. 655). The term disposition is synonymous with the term personality, which "stresses those traits or characteristics whose composite tends to individualize one in his society" (p. 655). Due to their similarity in meaning, the terms disposition and personality will be used interchangeably throughout.

Inmates living within the prison community may develop unique and individual modes for coping with stressful situations as they encounter them during their incarceration. Traditionally, the definition of adjustment has been based exclusively on behavioral measures alone. An inmate who repeatedly chooses to break the rules is
generally labeled as a "bad" or "maladjusted" inmate. An inmate who chooses to join numerous inmate programs and follows the institutional rules is commonly referred to as the "good" or "well-adjusted" inmate. Viewing adjustment purely as a behavioral outcome inherently leaves out the individual who is experiencing a great deal of stress but chooses to withdraw internally, rather than draw attention to himself by breaking a stated rule.

Research investigating adjustment to incarceration has been focused on two theoretical models, the deprivation and importation models of adaptation. These models currently attempt to explain factors that may play a role in the development of a process known as prisonization. However, research has traditionally focused on primarily studying the assumptions of the deprivation model, which argues that factors within the prison itself lead to increased levels of stress and anxiety (Sykes & Messinger, 1960; Thomas & Petersen, 1977; Paterline & Petersen, 1999). The importation model, however, argues for the importance of taking into consideration the dispositional variables that every individual brings with him upon entering the prison walls (Irwin & Cressey, 1962; McCorkle, Mietle, & Drass, 1999). While most researchers in the field of corrections currently agree that the factors that comprise most of the variance in ability to adjust or not adjust to prison life can be found by an integration of these two models, the importation model continues to receive much less focus. A more thorough theoretical conceptualization regarding the importance of personality variables is needed if a better understanding of adjustment is to be found. While the importation model has investigated whether certain preprison experiences, such as educational attainment or socioeconomic status, play a role in the development of inmate
adjustment patterns, only one half of the assumptions of the importation model have been investigated. The importation model also theorizes that personality factors that have developed through a number of lifetime experiences contribute to varying adaptation types and levels of inmate adjustment. However, personality variables have seldom been included into the analyses comparing the importation and deprivation models. It should be noted that an argument in personality literature has developed regarding the influence of genetics versus the influence of learned experience in the development of personality characteristics or traits (Bateson & Martin, 2000; Millon & Millon, 1974; Plomin & McClearn, 1993). Although the importation model takes into account the importance of genetics and learned experience, it is based primarily on a social learning perspective, which argues that one’s socialization and previous experiences influence the development of certain personality traits. These personality traits and previous experiences are then hypothesized to impact levels of prisonization and adjustment.

Another limitation of previous research is that, while these models have lent support to the phenomena known as prisonization and the development of inmate subcultures, researchers have failed to incorporate this research to the broader study of adjustment to incarceration literature. Clemmer (1958) argued that the process of prisonization developed as a means for inmates to cope with the stressful circumstances of prison life. Although few researchers would argue that a process similar to the concept known as prisonization described by Clemmer can take place among the prison population, virtually no studies have attempted to address whether the factors that contribute to the development of prisonization actually influence levels of adjustment.
among inmates. Few studies have specifically investigated how inmates' current levels of anxiety or other emotional states that may develop in response to exposure to the prison environment may contribute to their ability to adequately adjust behind prison walls. A more complete investigation of the person (importation model) and environmental (deprivation model) factors, or the combination of both (integrative model) is needed to clearly understand inmate adjustment patterns. In addition, it is argued that the traditional method of measuring adjustment to incarceration, using number of disciplinary infractions as the anchor, is too narrow. It is argued that the importation and deprivation models will be better able to account for varying levels of adaptation when using a measure of adjustment that is more thorough and also includes psychological and affective components, rather than simply a measure of institutional infractions.

Justification for the Study

This study responds to the admonitions of scholars in current literature that call for a melding of theory and practical empiricism in the conceptualization and measurement of coping processes (Lazarus, 2000; Snyder, 1999). Since the late 1960s, there has been an escalating growth of interest in the area of stress and coping. Researchers have consistently focused on this area as a subject of concern, with the number of publications on coping alone growing more than five-fold since 1982, resulting in nearly 23,000 publications in APA-affiliated journals since 1967 (Coyne & Racioppo, 1999). Therefore, the topics of stress and coping are arguably two of the
most widely studied topics in all of contemporary psychology (Hobfoll, Schwarzer, & Chon, 1998).

Prisons have repeatedly been described as one of the most stressful situations one can be forced to endure (Bureau of Justice Statistics, 1997, Clements, 1979; Gibson, 1991; Haney & Zimbardo, 1998; Tonry, 1995). It is not until recently, however, that mental health practitioners have begun to find an interest in correctional settings as an area of focus (Birmingham, Gray, Mason, & Grubin, 2000; Fogel & Martin, 1992; Morgan, Edwards, Faulkner, 1993). Although a number of sociological studies have attempted to investigate the effects of incarceration on individuals, most researchers have failed to consider the recent advances made in the area of stress and coping literature. Additionally, psychiatrists and psychologists have, at times, viewed prison settings as some of the most undesirable settings in which to seek employment (Haney & Zimbardo, 1998).

Recent trends in incarceration have begun to paint a different picture of the makeup of institutional settings. Traditionally, prisons have been run primarily as political and bureaucratic systems focused on punishment and retribution (Johnson, 1996). However, with tougher sentencing laws and drastically increasing numbers of individuals being incarcerated, the focal point of interest has begun to shift to a need for treatment. In addition, with the closing of numerous mental health hospitals over the past 20 years, a large number of individuals with mental illness have been sent to prisons for management, often without the accompanying change in staff to account for adequate treatment (Gunn, 2000).
Over the last 20 years, prison settings have recognized the need for the employment of mental health professionals (Gunn, 2000; Lovell & Jemelka, 1998). The federal prison system has led the way in this effort, with nearly every federal prison now having a fully staffed psychology department (Bureau of Prisons, 1998). In addition, many innovative treatment programs have been set up, allowing therapists to begin to understand and provide treatment to the individuals in their care. For example, federal correctional institutions currently have programs for the treatment of sexual offenders, drug abuse, behavioral management, chronic mental illness, and acute psychiatric care. Correctional settings are currently seeking the understanding and expertise of psychologists and psychiatrists, not only for the treatment of inmates, but with a desire for policy change and reform.

Though these progressions in the science and study of coping, as well as in the introduction of mental health practice and theory into the field of corrections, may seem promising, sensible and straightforward, they do not mimic the progression of program implementation in these applied settings. A need exists for an introduction of theory into the practice of correctional psychology. However, many correctional settings continue to use guidelines and models developed by correctional administrators as the standard for practice. The argument by mental health professionals for a more treatment-oriented approach to the management of convicted felons has been slow to meet with approval. For example, practitioners in clinical settings often observe that coping processes for patients suffering from such acute stressors as bereavement or trauma tend to go through stages of adjustment, suggesting that coping processes may be fundamentally developmental (Aldwin & Revenson, 1987). However, many prison
administrators have been slow to acknowledge that many individuals suffering from acute stressors may be at a different developmental stage than outward behavioral disruption, yet still need individual attention. In addition, behavioral disruptions due to issues of maladjustment have consistently been viewed as issues of importance for the custody and management of the inmate and the maintenance of the institution and not as a specific concern for the mental health of the individual.

While some researchers have attempted to extend the understanding and prediction of maladjustment to a prison setting by developing predictive instruments (Panton, 1958, 1979a, 1979b; Wattron, 1963), they continued to use the measurement of outward behavior as the sole indicator of adjustment. Given that coping instruments may be conceived as empirical representations of theoretical assumptions, as well as indices of psychosocial adaptation, development of coping assessment instruments may serve as an intervention in the joining of theory, research, and practice, as well as a linking of prison administrators and mental health professionals.

Although stress and coping literature has debated a number of issues, researchers and clinicians have come to some concessions. For example, at least some consensus has been reached regarding the operational definitions of stressor, stress, and coping. Stress is now commonly defined as the negative emotional and physiological process that occurs as individuals try to accommodate or adjust to environmental circumstances that disrupt or threaten their daily functioning (Lazarus & Folkman, 1984; Taylor, 1995). It is also generally accepted that stress may be conceptualized as a process of executing cognitive strategies and behavioral interventions in response to distressing life events (Bellah, 2000; Billings & Moos, 1981; Folkman & Lazarus,
Moreover, most researchers and clinicians agree that individuals differ in the form and manner in which they cope with stressful circumstances.

Despite the fact that practitioners and researchers in other applied settings have come to a general agreement about the operational definitions of the constructs under study, a continued need exists for a consistent and thorough definition of constructs, specifically of adjustment and the factors influencing adjustment in a prison setting. Additionally, although a consensus is found in other applied settings in reference to individual differences regarding vulnerability to stress and coping ability, many prison administrators have failed to apply these theoretical formulations to the practice of institutional management. With the introduction of more mental health practitioners and researchers, now appears to be a good time for a thorough investigation of the factors leading to maladjustment, with the intention of developing future instruments that may allow for the better prediction of individuals who may one day escalate to behavioral outbursts. In addition, a better understanding of the factors influencing adjustment levels may lead to the development of interventions that are more efficacious and programs for those inmates struggling to cope with the stressors of incarceration. While moderating effects of predictability, control, and support are well documented and generally accepted in the professional literature (Billings & Moos, 1984; Cohen & Wills, 1985; Folkman & Lazarus, 1985; Glass & Singer, 1972; House, 1981; Lazarus & Folkman, 1984; Schaefer, Coyne, & Lazarus, 1981; Snyder, 1999), most of the research has focused on these constructs as characteristics of the environment (deprivation model) (Sykes & Messinger, 1960; Thomas & Petersen, 1977; Paterline & Petersen, 1999), rather than of the individual (importation model) (Irwin & Cresssey, 1962;
McCorkle, Mietle, & Drass, 1999). Therefore, given the call for the investigation of clinically relevant coping processes and dispositional moderators of stress (Lazarus, 2000), the current study presents a first step towards a melding of theory, measurement, and practice prescribed for future research in the field of stress, coping, and adjustment within a correctional setting (Haney & Zimbardo, 1998).

**Literature Review**

**History and Development of Today's Prisons**

*The Earliest Forms of Incarceration.* Concern over criminality is not a new phenomenon. References to crime and punishment can be found as early as biblical times. In Deuteronomy 19:1-14, God specifically instructs Moses to set aside three cities in which individuals who kill their neighbor "unintentionally and without malice aforethought" (New Student Bible, 1996, p. 191) may flee and seek refuge. The relatives of the deceased were instructed that they were not to seek revenge in any way once the man fled to the protected cities. However, if a man, intentionally and with hate in his heart, murdered another and then fled to one of these protected lands, he was to be returned to the victim's family to be put to death.

Although we can see that mention of rules, laws, and criminality was a focus of interest from the earliest of times, literature indicates that the first formal and enduring prison structure was not built until approximately 64 B.C. Mamertine Prison was built under the sewers of Rome and contained dungeons in which "prisoners were confined in what were basically cages" (Johnson, 1996, p. 15). Mamertine Prison and other...
prisons of that time were primarily built for no other purpose than the inflicting of pain and suffering. A typical description of prisons such as Mamertine includes throwing individuals into an underground cage, perhaps tied or chained to a wall, and allowing them to be essentially forgotten by the rest of civilization (Gaylin, 1978). Early prisons served retributive functions, and imprisonment was part of the suffering intentionally visited upon the offender to pay him back for the harm done to the victim (Johnson, 1996).

A secondary function of these early prisons was to serve as a means of quarantine. Before the times of modern medicine, the threat of contagious disease ran rampant and was greatly feared. When individuals fell victim to infection, many times some type of expulsion from the community, backed by restraint and confinement, would be a means of preventing the diseased individual from returning to the community and infecting the healthy. One of the earliest examples of quarantine and fear of contamination can be seen in the seclusion and expulsion of individuals with leprosy, who soon developed their own civilization commonly referred to as the leper colony (Johnson, 1996). Mamertine Prison, as well as prisons developed shortly thereafter, often served this purpose of quarantine and were at best human warehouses in which men, women, children, and sometimes even animals, were confined (McConville, 1981). These institutions were characteristically filthy, disease-ridden, and violent (Byrne, 1989).

During the Middle Ages, the goal of confinement began to change. Many prisons now took a more disciplined stance and added reformation of the disobedient to their objectives. These settings began to look less like forgotten warehouses of dead
souls and more like organized societies with a job to do. This job, and the newfound purpose behind incarceration, was penance, and the objective of penance was spiritual purity (Johnson, 1996). These changes were due in large part to the influence of the monastery on the prison system. There is evidence of cells existing in monasteries, as early as the fourth century, reserved for those relegated to years of solitary confinement (ACA, 1983).

It was not until the Inquisition in the thirteenth century, however, that prisons themselves began to feature a strict regime of solitary reflection (Newman, 1978). Criminals were now to dig deeply into their consciences while in their dungeon cells and repent for their sins. The criminal and sinner were to be cleansed of their impurities by pursuing their rehabilitation through solitary reflection (Hirsch, 1982). These same ideas could still be seen at the turn of the nineteenth century during the times of the more modern “penitentiary.” In fact, Norris (1985) reminds his readers that the first penitentiaries “were in a sense monastic prisons where penance replaced civic punishments” (p. 23). The link between penance and punishment is implied in the term “penitentiary,” which comes from the Latin word for ‘penitence’ and ‘repentance’, and shares “the same root as the words for punishment, pain, and revenge” (p. 75).

American Prisons Before the Penitentiary. It has not been unusual for Americans to claim the development of the penitentiary as their own. However, the penitentiary as a regime of disciplined isolation found its earliest roots in distant countries. In fact, during the colonial period in America, punishment was handled in a much different form than that found in the roots of the penitentiary. During the colonial
period, individuals were not incarcerated for purposes of personal reform or even, until much later, for a sentence of punishment at all. During this time period, American colonists took a pessimistic view of humankind. Man was a "depraved creature cursed by original sin" (Walker, 1980, p. 40). Only God was believed to control the fate of the individual; therefore, the notion of rehabilitation or "correction" was thought to be hopeless (Johnson, 1996).

The Puritan view of crime and punishment was often harsh, yet it could also be applied with considerable compassion. In the earliest days of the colonial period, towns were small, intimate communities, and those who turned to criminal disobedience were often seen as wayward citizens or fallen neighbors rather than evil criminals (Johnson, 1996). When an individual's transgressions were few or relatively minor, the Puritans used punishment as a vehicle of healing and reintegration. Shame, in the form of public punishments, tended to be the primary instrument used to try to help the individual to "change" his or her ways. However, when misbehavior was more extreme, Puritan forms could be very harsh and frequently included exclusionary punishments, such as banishment, mutilation, and the death penalty (Hirsch, 1982). These methods were used only as a last resort and marked a person as permanently beyond the protection of the community.

As times began to change and the colonies began to grow in size and number, the close intimate communities became less stable. Soon, residents became more transient and the offender was now commonly described more as a stranger than a neighbor. At this point, colonists began to punish offenders with a growing vengeance "because God's will demanded it" (Hirsch, 1982, p. 1233). During this time, formal
incarceration began to take the place of public punishment. These colonial prisons were not the intimate communities previously found, but instead impersonal institutions marked by brutality and neglect. Prisons served as places of confinement that offered few, if any, comforts. As in the time of the Mamertine Prison, offenders were merely contained, more often than not in less than sanitary conditions. The object of this system was "maximum general deterrence" (McConville, 1981). Deplorable prison conditions were thought to be humane in the sense that they sacrificed only a few lives but saved many others by deterring possible future criminals.

The first American prison reform group, established in the latter part of the eighteenth century, sought to alleviate many of these extreme pains of incarceration. Among the earliest prison reforms was the separation of prisoners into cells or some other form of isolation. The primary reason for this interest in separation was not directly related to the alleviation of suffering on the part of the inmates, but rather the reduction of the spread of disease. It was not until some time later, however, that separation was also viewed as a mechanism for the prevention of moral contamination and as a vehicle for the rehabilitation of the prisoner (Johnson, 1996; McConville, 1981).

*The American Penitentiary.* Walnut Street Jail, the first American penitentiary, was erected in 1790 (Rothman, 1971). From the outset, penitentiaries had two main goals: to protect prisoners from moral contamination and to restore them to habits of correct living. The object was not only to protect one's health through separation, but also to improve character (Ignatieff, 1978). The emergence of the American
Penitentiary also reflected the widespread social forces at work during the Enlightenment period. At the turn of the nineteenth century, the penitentiary was affected by a number of trends that made the resolution of problems such as poverty, mental illness, and crime appear to be within reach (Johnson, 1996). Social reformers of the early nineteenth century believed that social problems begged for social solutions. America, only recently liberated from England, viewed humanity more optimistically than in the colonial days. The prisoner’s fate was no longer thought to be solely in the hands of God, but instead, individuals who committed crimes were said to be the product of society. While the common belief of the time was that crime was deserving of punishment, the penitentiary also sought to reclaim the individual by and for society (Johnson, 1996).

The American penitentiary initially reflected two separate models of reformation. The first model was the separate system, represented by the origination of the Walnut Street Jail in Philadelphia. The procedure was one of solitary confinement and manual labor characteristic of the typical monastic experience. Prisoners were separated and isolated from contact with one another, as well as from the outside world. The aim of punishment was penance resulting in purity and personal reform, and the sentence was carried out specifically through the loss of freedom. While labor was introduced into this system, jobs such as craftwork were kept relatively simple and were intended to focus consciousness on the simplicity of nature rather than on the extreme physical demands (Johnson, 1996).

The second model, known as the congregate system or the Auburn system after the first prison of this type, retained the monastic features of the separate system but
blended those features with a more contemporary lifestyle. The introduction of harder labor and brief contact among prisoners were the cornerstones of the congregate system. The inmates lived in solitary isolation by night and a quasi-military organization of activities by day. Movement through the prison grounds ran in unison and in lockstep; eating, while assembled, required inmates to remain with their backs straight and at attention, and work required long hours of rote factory labor (Rothman, 1971).

While the separate system was seen as attractive and relatively simple, it was also expensive. Due to the belief in solitary confinement, spacious and expensive cells were required (Beaumont & Tocqueville, 1964). Solitary confinement restricted labor to simple tasks and generated little income for the running of the prison. The congregate system, on the other hand, introduced a form of labor that allowed the prison to produce its own income. Eventually, few prisons were erected based on the separate system, with the competing congregate system gaining popularity by the introduction of work structured in the same way as the dominant form of the times based on factory work (Melossi & Pavarini, 1981).

Although the goals of the reform era were attractive, the image of the penitentiary as a humane institution was in large part merely a pretense. Perhaps not nearly as extreme as the prisons of the past, pain, both physical and psychological, remained a central feature of the penitentiary. Due to the political forces pushing factory-type labor, inmates were often treated more like slaves than typical laborers. Life in the penitentiary was described as lonely, depressing, and maintained by the threat and practice of violence. The intention was to debase and degrade, and conditions in these prisons were grim (Keve, 1986). For example, it was common for the sick or
lame to live on short rations because they were less useful workers than their healthier peers. Even for those that were better fed, all inmates were meant to remain hungry, uncomfortable, and tired, often resulting in illness and disease that claimed many lives (Lawes, 1932). Hygiene was virtually absent, with baths taken in groups, some as large as fifty, and over in seconds. Recreation time was even more rare. By 1880, some prisons offered a paltry five hours a year of recreation time in the prison yard (Moore, 1892).

Contributing to the harmful and difficult conditions of incarceration was the rule of complete silence at the heart of the penitentiary regime. While communication is basic to human nature, it was absolutely restricted in the environment of the penitentiary. In the words of the first warden of Sing Sing Prison, Captain Lynds:

It is the duty of convicts to preserve an unbroken silence ... They are not to exchange a word with each other under any pretense whatever; not to communicate any intelligence to each other in writing. They are not to exchange looks, wink, laugh, or motion to each other. They must not sing, whistle, dance, run, jump, or do anything which has a tendency in the least to disturb the harmony or contravene to disturb the rules and regulations of the prison (Lawes, 1932, p. 72).

By the end of the nineteenth century, the penitentiary had deteriorated from a productive factory with at least the pretense of reform to a society reminiscent of a custodial warehouse (Johnson, 1996). The original design of the penitentiary called not for the hardened professional criminal, but rather, for the “good boy gone bad” (Rothman, 1971, p. 247). However, the courts of the time had a different idea. Instead
of sending the amenable individual to prison, he was often sentenced to more progressive programs such as probation, apprenticeship programs, or placement in almshouses. It was the incorrigible, often violent offenders who were commonly sent to the penitentiary, making any sort of reform nearly impossible (Johnson, 1996).

The decline of the penitentiary brought with it the emergence of a more custodial regime. The larger mission of discipline was reduced from the goal of reform through hard work and honest living to the more mundane aim of storage and control (Hawkins, 1976; 1983). Lapses in discipline became common, leading to what may be characterized as one of the most corrupt and brutal periods in the history of American prisons and marked the end of the penitentiary as an instrument of reform (Rothman, 1983). A preoccupation with discipline marked by obedience and order, backed by violence, and maintaining only a small façade of reform, served as the foundation of the typical prison well into the twentieth century (Johnson, 1996).

*The Big House.* The prisons of at least the first three decades of the twentieth century highly resembled those in existence one hundred years earlier. They were characterized by an emphasis on custody, punishment, and hard labor. By the mid-1930's, many prisons had reverted to a model once again focused on custody and punishment (Barnes & Teeters, 1952). The prisons during this time were commonly known as the Big House, with Alcatraz as the quintessential model. Big Houses such as Alcatraz, Sing Sing, and Statesville offered virtually no remedial programs (Johnson, 1996) whatsoever and “were places of pervasive brutality” (Rothman, 1980, p. 152).
However, the administrators behind the Big House did try to improve upon the penitentiary in some respects. Whereas the penitentiary offered a life essentially devoid of comfort or distraction, the Big House implemented a series of humanitarian milestones that made prison life more bearable (Johnson, 1996). The first advance, at least from the prisoner’s point of view, was the introduction of tobacco, first permitted in Sing Sing in 1846. The results appeared to be immediate and had what has been described as a calming effect. Although the effect caused by something as simple as tobacco may seem strange to those unfamiliar to the world of incarceration, tobacco serves many purposes behind prison walls. Tobacco can be used to barter for services among inmates. Additionally, it helped to introduce a class structure among the society of inmates, with the less fortunate unable to procure tobacco, as well as be incapable of using it as a source for trade. Finally, tobacco helped to reintroduce a small bit of control in the otherwise idle, helpless world of the inmate.

The second reform was the abolition of corporal punishment. Before the removal of corporal punishment at Sing Sing in 1871, more than 60 percent of the prisoners were subjected to “the whip” on an annual basis (Lawes, 1932). While some prisons continued to use corporal punishment after its removal from Sing Sing, whippings and other physical sanctions became an underground, unauthorized activity by the turn of the century. In fact, prisons in the South continued to use methods of corporal punishment, either officially or unofficially, for most of the twentieth century (Crouch & Marquart, 1989).

The emergence of significant internal freedoms makes up the third reform by the Big House. These freedoms once again began in Sing Sing with the abolition of the
lockstep march in 1900. Relative freedom in the yard began first on Sundays and then was gradually increased to include every day of the week (Johnson, 1996). Although some privileges were introduced, the silent system of communication continued. While having more freedom of movement, prisoners were required to communicate in quiet, hopefully unseen, whispers and hand gestures. This practice often created tension, not only for prisoners, but for the correctional officers who were meant to control them (Lawes, 1932).

The history of the Big House shows that, once again, while attempting to introduce some reform, imprisonment remained a difficult and painful experience. The life of the incarcerated individual during this period included living in cramped and barren cells. Possessions were limited to the bare essentials. Inmates were no longer meant to go hungry, as food was generally in good supply. However, the diet was completely uninspiring and frequently consisted of day after day of mush, milk, beans, and little more. Whereas the dominant theme during the later years of the penitentiary was terror, the theme of the Big House was boredom and idleness. According to Nelson (1936) "perhaps the most important factor in the prisoner's loss of morale was the sense of failure, the sense of inferiority he felt simply because of his being in prison." Nelson went on to describe the prisoner of the Big House as "a member of the living dead, simply existing with no purpose or hope" (p. 4). It is this image of the living dead that spurred the actions of a new generation of prison reformers, who viewed the Big House as a human wasteland, in immediate need of correction (Johnson, 1996).
The Correctional Institution. With the passing of the Big House, American prisons saw the emergence of the correctional institution. The goal of these prisons is exemplified by their name, to correct those in its charge. Harsh discipline and brutality by officials became less salient features and the daily routine of the prison seemed to become more relaxed. Correctional institutions were marked by less intrusive discipline; more yard and recreation privileges; more liberal mail and visitation policies; more educational, vocational, and therapeutic programs, and more amenities such as the occasional movie or concert (Johnson, 1996).

Although the objectives of the correctional institution seemed promising, the pains of imprisonment did not disappear. Moreover, considerable resentment seemed to development from both the correctional officers and the prisoners alike. Correctional officers became upset and frustrated by the lack of discretion they now had when making everyday decisions in how to provide adequate discipline and punishment. They no longer seemed to have the ability to hand out punishments without constantly having to answer for each decision. This effect resulted in correctional officers losing much of their credibility with the inmates they were required to control. The underlying problem regarding the prisoners themselves seemed to center around expectations, which ran high when correctional institutions were first put into place. While officials had promised to provide programs and rehabilitation, they frequently failed to deliver them. Though their intentions were good, most officials simply did not know how to run a prison under a correctional model. Rather than truly trying to correct or rehabilitate the inmate, they often simply left him to his own devices (Rothman, 1980).
Today's prisons still generally fall under the name of correctional institutions; however, due to both internal and external forces throughout the 1970s and 1980s much of the emphasis returned to punishment and increasingly away from rehabilitation. With frustrations continuing to rise over the years, violence often prevailed. During this time, an unusual number of riots and escapes broke out throughout the nation. In addition, crime rates and overcrowding continued to rise. While the goal for correction remains, the fact of the matter is that custody continues to be the number one objective of the American prison (Colvin, 1992; Toch, 1988). Moreover, prison remains painful and is difficult for many individuals to adjust to. Prison is meant to punish those who do wrong. Aside from the inevitable punishment that arises from being removed from society, the incarcerated individual must also continue to contend with factors such as loneliness, idleness, increasing levels of violence, overcrowding, an increase in mentally ill inmates introduced into the general population, and separation from outside supports. Imprisonment continues, and perhaps will always continue, to be a difficult existence. To find better ways of controlling the prisoner, professional staff must continue to attempt to understand the individuals, and the factors that affect those individuals, under their charge.

*Prisonization*

Although extreme changes over the years have led to a more humane and civilized existence for inmates than ever before, the experience of incarceration remains one of the most stressful and difficult environments in which to live. The first detailed analysis of the changes inmates undergo as a means of attempting to adjust to
confinement was Donald Clemmer's pioneering work (1950, 1958) on the concept of "prisonization." Clemmer defined prisonization as "the taking on, in greater or lesser degree, of the folkways, mores, customs, and general culture of the penitentiary" (1958, p. 299). Clemmer held that nearly all inmates underwent prisonization to a greater or lesser degree and, therefore, considered the prisonization process to be a collective attempt at adjusting to confinement. According to Clemmer, the first and most obvious integrative step in the process of prisonization concerns the inmate’s status in the institution. Upon entering the prison, the inmate quickly becomes an anonymous figure in a subordinate group, with a number replacing a name, clothing identical to all other inmates, and virtually just another unknown face in a crowd of convicts.

Shortly after the initial entrance into the institution, the new inmate begins to assign new meaning to conditions that he had previously taken for granted. The fact that food, shelter, clothing, and work activity had been given to him at the outset makes no special impression. It is not until he begins to associate with other inmates that he begins to place emphasis on the fact that the environment should administer to him. This emphasis may only be a subtle change in perception but it is believed to be a fundamental step in the process of prisonization. In other words, through association with others, inmates soon “wise up” and come not only to expect but also manipulate and coerce others for the desired job assignments, living quarters, etc. (Clemmer, 1958).

According to Clemmer, the longer an inmate’s prison stay, the more removed from conventional society he or she becomes and the stronger the influence of the antisocial prison society. In various other ways, men new to prison begin to slip into the existing cultural patterns of the institution. Many men may learn to gamble, may begin
to take on aberrant sexual behaviors they were not involved in outside of the prison environment, and soon may begin to distrust and hate the officers and parole boards which are an everyday part of their new existence (Clemmer, 1950). However, the extent to which one begins to take on these changes is not the same for all inmates. As such, inmates begin to exhibit different levels of prisonization.

Though incarceration may lead to varying levels of prisonization, Clemmer lists a number of influences that every man is subject to while in prison. In fact, these factors are said to be so widespread that they have quickly become known as the universal factors of prisonization (Clemmer, 1958; Garabedian, 1963). Aspects of prisonization that occur for all inmates include but are not limited to:

Acceptance to an inferior role, accumulation of facts concerning the organization of the prison, the development of somewhat new habits of eating, dressing, working, and sleeping, the adoption of a local prison language, the recognition that nothing is owed to the environment for the supplying of needs, and the eventual desire for a good job (Clemmer, 1950, p. 316).

However, it is not these aspects of prisonization that typically tend to concern prison officials and researchers in the field of corrections, yet they remain important due to their universality and possible influences to a man’s personality and later adjustment to other settings.

The phases of prisonization of most concern to administrators, clinicians, and researchers are those influences that may serve to deepen criminality and anti-sociality. In his landmark book, *The Prison Community*, Clemmer (1958) listed a number of factors that he believed could serve to illustrate individuals on each extreme of the
prisonization continuum. According to the definition given most commonly for adjustment in correctional research, based on rule infractions and the presence or absence of negative behavior, the most adjusted inmate would be the least prisonized and can be enumerated by the following factors:

1. A short sentence, thus a brief subjection to the universal factors of prisonization.
2. A fairly stable personality made stable by the adequacy of positive and "socialized" relationships during pre-penal life.
3. The continuance of positive relationships with persons outside the walls.
4. Refusal or inability to integrate into a prison primary or semi-primary group, while yet maintaining a symbiotic balance in relations with other men.
5. Refusal to accept blindly the dogmas and codes of the population, and a willingness, under certain situations, to aid officials, thus making for identification with the free community.
6. A chance placement with a cellmate and workmates who do not possess leadership qualities and who are not completely integrated into the prison culture.
7. Refraining from abnormal sex behavior, and excessive gambling, and a ready willingness to engage seriously in work and recreational activities.

Likewise, maladjustment tends to coincide with a higher degree of prisonization, with the extreme on this end being comprised of the following factors:
1. A sentence of many years, thus a long subjection to the universal factors of prisonization.

2. A somewhat unstable personality made [more] unstable by an inadequacy of "socialized" relations before commitment, but possessing, nonetheless, a capacity for strong convictions and a particular kind of loyalty.

3. A dearth of positive relations with persons outside the walls.

4. A readiness and a capacity for integration into a prison primary group.

5. A blind, or almost blind, acceptance of the dogmas and mores of the primary group and the general penal population.

6. A chance placement with other persons of a similar orientation.

7. A readiness to participate in gambling and abnormal sex behavior (pp. 301-302).

**Assimilation and Cross-Cultural Adaptation**

The process of prisonization and socialization is a complicated one and has been compared with the theory of assimilation and the related theory of cross-cultural adaptation. Assimilation (Clemmer, 1958) can be defined as "a more or less unconscious process during which a person, or group of persons, learns enough of the culture of a social unit in which he is placed to make him characteristic of that unit." (p. 220). According to Clemmer, assimilation implies that a process of acculturation occurs in one group whose members were originally quite different from those of the group with which they are mixing. However, it is safe to say that for the most part, the
individuals that are sent to prison are not significantly different from those already there in that they all have committed some type of crime, and many may be similar in upbringing, values, and norms. Assimilation also differs in this context from its more typical usage in that it generally tends to imply a slow, gradual process, whereas prisonization is not necessarily a slow process and may actually occur rather quickly. The speed with which prisonization occurs depends largely on the personality of each unique individual, the type of crime, the individual’s age, home environment, social supports, intelligence, and other factors (Clemmer, 1958; Flanagan, 1981; Irwin & Cressey, 1962; Thomas, 1973).

The literature on cross-cultural adaptation also provides essentially four models that can help to describe the processes of adaptation similar to prisonization. The recuperation model stresses the idea of “culture shock” upon entering a new culture. This model holds recovery from shock to be the mechanism for accommodation to life in strange environments (Anderson, 1994). The recuperation model is based on a U-shaped curve (Lysgaard, 1955), positing an initial “high” occurring at cultural entry, followed by a bottoming out resulting from cultural confrontation, and ending with a climb up and out to cultural acceptance and adaptation.

Culture shock was originally described by Oberg (1960) as a medical condition resulting in feelings of disorientation following entry into a new culture. These feelings may be so strong that they lead to actual physical symptoms. A modern modification of the culture shock recuperation model describes recovery following from a crisis of personality identity, rather than an illness producing mental or physical disintegration (Bennett, 1977; Garza-Guerrero, 1974; Pearson, 1964; Weinmann, 1983). Psychological
crisis conceptualizations tend to view identity crises as a natural outcome of contact with a culture alien to the individual. Upon contact with this culture, all the familiar underpinnings of one's sense of self are described as being torn away, depriving the individual of the people who serve as their most familiar reference points that provide the cues for their behavior (Lewis & Jungman, 1986).

One of the best proponents for this model is Adler (1975, 1987), who construed the cultural adaptation process as a powerful developmental experience. According to Adler, the crisis provides the motivation needed to open the way to personality development and personal growth. The change that the cross-cultural experience produces in the individual shakes up his or her preconceptions. While this change may initially lead to the disintegration of his or her personality, it is precisely this disintegration that is necessary for a better, more integrated and transcultural self to be constructed.

The second model views cross-cultural adaptation essentially as a learning process. To adapt to a new environment, individuals must learn the parameters of the new sociocultural system and acquire the sociocultural skills necessary for participating in it (Byrnes, 1965; Ezekiel, 1968; Lee, 1979). Rather than occurring in a U-shaped curve as in the recuperation model, this model follows the classical ascending slope of the learning curve (Anderson, 1994).

Two somewhat different courses of culture learning fall under this model of cross-cultural adaptation. Within the first school of thought, communication skills are said to govern an individual's ability to interact effectively in all life situations; therefore intercultural communication is at the core of cultural adaptation (Furnham &
Bochner, 1986; Gardner, 1952; Ruben & Kealy, 1979). Hence, cultural adaptation requires learning the communication skills necessary for effective social interaction in order to overcome the verbal and nonverbal communication failures that are inevitably found in a strange environment (Furnham & Bochner, 1986).

The second school of thought within the learning model contends that successful adaptation lies in the implementation of appropriate social behaviors but distinguishes itself from the communication view by its emphasis on behavior learning itself. Within this view, cultural adaptation is seen as a recursive process of operant conditioning. Not only must one learn appropriate behaviors but also the reinforcement contingencies governing those behaviors (i.e., the system of rewards and punishments specifically associated with the new behaviors) (David, 1976; Mischel, 1973; Triandis, 1980; Wallace & Atkins, 1961).

A third family of models, also linear in nature, falls somewhere between the recuperative and learning views. Proponents of these models view cross-cultural adaptation as a step-by-step psychological journey from the outskirts to the center of a foreign culture, or from a state of initial denial and ignorance to a state of understanding and empathy (Gordon, 1971; Jacobson, 1963; Stewart, 1977). Perhaps the best view within this model is proposed by M. J. Bennett (1977) and is based on the principle of psychological dissonance. The process is symbolized by a progression in cognitive “sensitivity” (Anderson, 1994, p. 295) that occurs with increasing exposure to a new culture. The individual moves from an initial state of “ethnocentrism” to a state of “ethnorelativism”, in which points of difference between the cultures are integrated into their own worldview. This model is very similar to the theory of prisonization proposed...
by Clemmer, with increasing levels of acceptance of the new culture's norms, values, and mores occurring after exposure to that culture.

The final set of views, or the "equilibrium" model, construes cross-cultural adaptation as a dynamic and cyclical process of tension reduction. The basic premise is mechanical in nature, assuming that systems operate in a "steady-state" mode until dynamic events, upheavals, or disruptions push them out of equilibrium. Cross-cultural adaptation is a process of reducing the internal imbalance that is unleashed by a confrontation with the foreign environment or culture, after which the individual is free to subside into a normal operating mode (Anderson, 1994; Barna, 1976; Wong-Reiner, 1984).

Models of Prison Adaptation as Predictors of Prisonization

While these models of cross-cultural adaptation are similar to the process of prisonization, their outcomes are generally viewed as positive events. Though inmates may use the prisonization process as an adaptive method of adjusting to the prison environment, one must see that, from an administrative aspect, higher levels of prisonization are not desired within a prison setting and researchers have increasingly attempted to understand the adaptation process to possibly find a means for reducing prisonization levels and rule infractions. Although over fifty years have passed since Clemmer's (1950) work was first published, his account arguably remains the most thorough and detailed description of the socialization process of inmates while in prison.
Clemmer's (1950) thesis later incited one of the more stimulating debates in criminological literature between two models of adaptation (Paterline & Petersen, 1999). The deprivation model of inmate adaptation focuses on the socio-structural-functional features and patterns of interaction unique to the prison itself (Goffman, 1961; Sykes, 1958; Sykes & Messinger, 1960). This model emphasizes the importance of the pressures and problems caused by the experience of incarceration in the creation of an inmate culture. The assumption is that two main factors take precedence over the importance of other variables in the explanation of the adjustment process. First, inmates are exposed to the depersonalizing and stigmatizing effects of legal processing and formal induction into prison. Second, the alienating effects of the coercive power exercised by prison officials in their attempts to maintain social control within the prison are believed to strongly influence one’s ability to cope with the stress of incarceration (Thomas, 1977). These “pains of imprisonment” (i.e., deprivations of liberty, goods and services, security, autonomy, and heterosexual relationships) are said to promote inmate solidarity, a collective uniting against their oppressive environment (Sykes, 1958). Once a collective process occurs, an inmate society begins to form, “a society that includes a network of positions, which reflect various types and levels of commitment to subcultural norms as well as adaptive reactions to the problems of confinement” (Thomas & Petersen, 1977, p. 49).

Criticisms of the deprivation model led to the development of the importation model of inmate adaptation, which contends that the inmate subculture is merely a mirror image of the social and personal characteristics inmates possessed in the community and have brought with them to prison. The argument against the deprivation
model is that if deprivations of confinement were the sole determinants of the extent to which inmates become assimilated into the inmate subculture, then given the common problems of adjustment, every inmate would become highly prisonized, which has not been found to be the case (Paterline & Petersen, 1999). The importation model emphasizes inmates' preprison experiences and personality as determinants of inmate adjustment and affects the degree of assimilation into the inmate subculture (Irwin & Cressey, 1962). The core proposition of this model is that the inmates' personal systems of ideals, values, and attitudes, rather than common or collective central value systems, are imported into the prison from the outside world and, in turn, influence prisoner behavior and adjustment (Glaser, 1964; Irwin & Cressey, 1962; Schrag, 1954). When relating the importation model to negative behavior patterns often the focus of prison officials, lower-class offenders are said to bring to the prison a set of subcultural attitudes and meanings, including those related to the use of violence and drugs (McCorkle, Mietle, & Drass, 1995).

Despite the oppositional nature of the deprivation and importation models, researchers have recognized the necessity of integrating these two positions into a more comprehensive model (Thomas, Petersen, & Zingraff, 1978). The integrative model emerged when researchers found support for factors connected to both models and suggested that a more complete, consolidated explanation of inmate adjustment was indicated. Rose Giallombardo (1966), in her classic study of women in prison, concluded that the prisoner culture could not be explained solely as an intrinsic response to prison hardships, even though deprivations may precipitate the development of that culture and provide the structure in which various modes of adaptation can
occur. (p. 25). The relevance of both situational (deprivational) and background (importation) variables to prison adjustment has been found by various researchers (Heffeman, 1972; Jensen, 1977; Jones, 1976; Kruttschnitt, 1981; Ward & Kassebaum, 1965).

Comparison of Adaptation Models

The debate over the deprivation and importation models of inmate adaptation as predictors of prisonization sparked a number of useful studies and has led to a better overall understanding of the prisonization process. After both models have been shown to contribute to the explained variance in the development of prisonization, the integrative model was proposed as a unifying model to better explain the factors involved in the development of varying levels of prisonization among inmates. Trying to compare the deprivation and importation models, Thomas (1973) examined the influences of an inmate's social class of origin, social class of attainment, age at first conviction, number of contacts with persons outside the prison, and positive post-prison experiences as predictors of prisonization. The results of this study implied that the influence of the immediate prison situation could provide only a partial explanation of the impact of imprisonment. Individual differences in pre-prison experiences and expectations also appeared to significantly contribute to the development of prisonization levels. Thomas suggested that an integration of these two approaches could provide a more inclusive model of the factors that determine prison adjustment. However, Thomas (1973) did not directly measure the contribution of these two models combined.
Thomas (1977) expanded on this earlier study by once again comparing the deprivation and importation models. However, in this later study, he also compared the influence of the integrative model in the explanation of prisonization levels. Thomas examined prisonization by obtaining data from a sample of 273 felons confined to a medium security, custodially-oriented facility for young adult offenders. The variables examining the influence of the deprivation model included: (1) feelings of alienation or powerlessness, and (2) length of confinement. The importation or pre-prison variables included: (1) educational attainment, (2) average monthly income during the two years prior to arrest, (3) the longest period of continuous employment during the same two year period, and (4) the number of self-reported felony arrests. Thomas (1977) also incorporated a measure investigating any positive or negative post-release expectations. Results of this second study found that an integration of the deprivation and importation models accounted for the majority of the variance in prisonization and opposition to the prison organization. However, when measured separately, the deprivation model accounted for more of the explained variance than the importation model.

Akers (1977) expanded on the prisonization literature by comparing the importation and deprivation models on their role in the development of leadership roles in prison. The deprivation model hypothesized that the type of prison environment experienced most significantly contributed to the kinds of leadership roles found in prison. The importation model, on the other hand, hypothesized that it was the inmate’s personal characteristics that played the most significant role in the development of leadership roles. The results of this study identified the type of prison as the strongest influence on both the style and effect of inmate leadership, and therefore supported
more strongly the deprivation model. Nevertheless, effects of inmate characteristics on the leadership variables were also identified, once again suggesting the influence of both models in the explanation of prisonization levels.

According to Clemmer's (1950) description of the prisonization process, the longer one is exposed to the environmental influences of the institution, the more highly prisonized they should become. To test this portion of the prisonization theory, Flanagan (1981) specifically measured the level of prisonization for long-term inmates. The results of this study support the deprivation model, finding that inmates serving long-term sentences experience their confinement significantly different than those with much shorter sentences. However, the importation model was also supported. Individual differences, pre-prison experiences, and post-release expectations also contributed to prisonization levels. An interesting finding was the fact that inmates serving shorter sentences appeared to exhibit higher levels of prisonization than long-term inmates, suggesting that Clemmer's (1950) conceptualization of the time frame of the prisonization process may not be totally correct.

Limitations of Adaptation to Incarceration Research

The majority of the prisonization research supports the contention that an inmate subculture, or contraculture, develops as a response to incarceration. Clemmer (1950) originally explained the prisonization process as a phenomenon that arises as inmates attempt to adapt to the painful and degrading aspects of imprisonment. Two models, the deprivation and importation models of inmate adaptation, have been proposed to account for the factors involved in the development of prisonization levels. After an
extensive study of both models, a third model combining their influences was proposed as a more inclusive model of adaptation. However, at least two limitations in this line of research have limited the expansion of correctional literature to a true explanation of adjustment patterns. First, while previous research has supported the development of an inmate subculture, the explanations given by Clemmer (1958) for why this process has occurred have not truly been tested. The next logical step in the adjustment to incarceration literature is to test whether or not the models of adaptation truly contribute to the prediction and explanation of various levels of adjustment. Inmates, on an individual basis, generally report varying levels of anxiety and distress to the experience of incarceration. According to theory, primarily following the deprivation model of adaptation, these feelings of distress develop as a result of deprivations felt by exposure to a confined setting. In an attempt at improving the explanatory power of the deprivation model, these variables should be applied to self-reported levels of perceived psychological and emotional distress. Therefore, not only can it be argued that some inmates may tend to develop a unique subculture, but researchers can begin to examine whether these same variables also account for measures of adjustment that expand beyond disciplinary infractions.

A number of useful variables have also been included in the importation model. However, while this model proposes that pre-prison experiences, as well as personality variables unique to the individual, lead to the development of varying levels of adaptation and adjustment, merely one half of this explanation has been included in previous studies. For example, Thomas (1977) tested the influence of previous employment, monthly income, education level, number of previous felony arrests, and
postprison expectations. Although these variables provide a picture of the person's preprison experiences and opportunities, direct measures of personality traits and types were not included. Sorensen, Wrinkle, and Gutierrez (1998) added age and race into the test of importation influences, again leaving out true measures of personality.

Recognizing the fact that previous research has implemented only a small number of select variables to test the importation and deprivation models, as well as the need for inclusion of more direct measures of personality, Paterline and Petersen (1999) began to address this limitation by including measures of self-concept. In addition, these authors advanced the prisonization literature by using multivariate analyses to test their assumptions. While the work by Paterline and Petersen was promising, lending some support to the need for the inclusion of personality variables, their study was only the first step in this process. Taking the extensive work in the area of personality, researchers have yet to test a number of factors in the area of person-environment fit and levels of adjustment to incarceration.

**Jung's Theory of Psychological Type as a Measure of Personality**

The theory of psychological types developed by C. G. Jung (1921/1971) has been described as a useful model and has often been used as a method of describing dispositional modes or methods that the individual develops for dealing with the demands of the environment in general, and not specifically the work environment. Based on his clinical work with therapy patients, Jung consistently noted that individuals appeared to respond to their environment in very specific and characteristic ways. However, he also noted that two individuals with the same general characteristic
makeup did not always behaviorally react to the demands of an environmental situation in exactly the same way (Jung, 1923). These observations led to his study of individual differences and to the eventual development of the theory of psychological types.

From earliest times, attempts have been made to classify individuals according to personality and/or somatic types. One of the oldest attempts can be found in the writings of oriental astrologers who devised the so-called trigons of the four elements (i.e., air, water, earth, and fire). The air trigon in the horoscope consists of the three aerial signs of the zodiac, Aquarius, Gemini, and Libra. The fire trigon is made up of Aries, Leo, and Sagittarius. According to this old-age view, whoever is born in these trigons shares in their aerial and fiery nature and will have a corresponding temperament and fate (Jung, 1931). The notion of characterizing individuals according to the signs of the zodiac continues to be highly popular to this day.

Closely connected with this ancient cosmological scheme is the physiological typology divided into the four temperaments, which correspond to the four humours (Jung, 1931). What was first represented by the signs of the zodiac was later expressed in the physiological language of Greek medicine. Of the physicians of the 3rd century A.D., one of the most important was Galen, whose use of these teachings influenced medical science and the treatment of the sick for nearly seventeen hundred years. The very names of the Galenic temperaments betray their origin in the pathology of the four "humours." Melancholic denotes a preponderance of black bile, phlegmatic a preponderance of phlegm or mucus (the Greek word phlegma means fire, and phlegm
was regarded as the end-product of inflammation), sanguine a preponderance of blood, and choleric a preponderance of choler, or yellow bile (Jung, 1936).

The Two Attitude Types: Extraversion and Introversion. Jung used the concepts described by Galen, Hippocrates, oriental astronomers, and others when constructing his own theory. Psychological types refer to innate differences in temperament that cause individuals to perceive and react to life in different fashions (Edinger, 1968). By comparing the differences in the behaviors of his clients, Jung (1931) stated that it gradually became clear to him that there must be two fundamentally different general attitudes which would divide human beings into two groups. These attitudes were described as an essential bias, which conditions the whole psychic process, establishes the habitual mode of reaction, and thus determines not only the style of behavior but also the quality of subjective experience. Not only that, it determines the kind of compensation the unconscious will produce (Jung, 1931). He called these two attitudes Extraversion and Introversion.

The extravert is characterized by interest in the external object, responsiveness, and a ready acceptance of external happenings, a desire to influence and be influenced by events, a need to join in, the capacity to endure noisy environments and actually find them enjoyable, constant attention to the surrounding world, the cultivation of friends and acquaintances, and finally, a strong tendency to make a show of oneself (Jung, 1921/1971; 1931, 1936). Moral misgivings arise mainly when “other people know.” The psychic life of this type of person is enacted outside himself, in the environment. He lives in and through others (1936). This type will be restless and ill at ease when
alone and without diversion. Not being comfortable with the world of subjectivity, the extravert will shun introspection and will tend to depreciate subjective concerns as morbid or selfish (Edinger, 1968).

The introvert, on the other hand, is characterized by a tendency for the libido to flow inward, directed not to the object but to the subject (Carlson & Levy, 1973). The introvert is not typically forthcoming. He stays away from external happenings, does not join in, and has a distinct dislike of society as soon as he finds himself among too many people. The introvert will function most comfortably when free from the pressures and demands of the outside world. In a large gathering he or she feels lonely and lost. The more crowded it is, the greater the resistance becomes. The introvert’s best work is done with his own resources, on his own initiative, and in his own way (Jung, 1921/1971; 1936).

_The Four Functions: Thinking, Feeling, Sensing, Intuition._ According to Jung, every individual possesses both attitude tendencies, but one is usually more developed than the other (Jung, 1921/1971). Rarely will the two attitudes be in perfect balance (Barbuto, 1997). Jung theorized that the individual is not only inclined toward a preference for the subject or the object but also is biased toward the conscious function of which he or she makes principal use. The four basic psychological functions are known as thinking, feeling, sensation, and intuition. The essential function of sensation is to establish that something exists, thinking tells us what it means, feeling what its value is, and intuition surmises where it comes from and to where it is going (Jung, 1936). According to Jung (1921/1971), individuals have all four functions potentially at
their disposal. However, in actuality, one function is usually more fully developed than the others and is known as the "dominant" or "superior" function. Generally, a second function will also have achieved considerable development and is known as the "auxiliary" function. Since any one of the four functions may be superior, there is a possibility of four function "types", each corresponding to one of the four functions.

Thinking and feeling, being discriminative functions, are known as the rational functions. The thinking type's mental life is concerned largely with the creation of intellectual formulae and the fitting of all intellectual life into these equations. Since the feeling function will be inferior, its values may suffer and human relationships will quickly be sacrificed if they interfere with the ruling formula. The feeling type, on the other hand, is more concerned with the development and sustenance of personal relationships. Sensitivity to human needs and a willingness to meet those needs is the primary feature. Since thinking is the inferior function, its capacity for abstract, impersonal judgments may be neglected and thinking will be accepted only so long as it plays a subservient role to the interests of the feeling values (Jung, 1921/1971; 1931; 1936; Edinger, 1968).

Jung (1936) called sensation and intuition the irrational functions because they are both concerned simply with what happens and with actual or potential realities. The sensation type approaches the world through experience from the five senses. He or she is characterized by an adaptation to simple, matter-of-fact reality, often without reflection or imagination. While the sensing type often appears stable, he or she may lack creativity, vision, and imagination. The intuitive type, on the opposite end, is motivated primarily by the many possibilities and new visions for action. This type

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tends to focus on the "gut feeling" and often perceives connections between things that may seem separate and unrelated to others (Jung, 1921/1971; 1931; 1936; Edinger, 1968).

While these descriptions may initially seem sharp and drastic to the reader first becoming associated with Jung's theory, it is important to remember that the auxiliary function serves to soften and modify the characteristics of the superior function. Ideally, all four functions would be available to the individual in order to fully understand and appreciate life experiences. To summarize, it should be stressed that each of the two general attitudes, introversion and extraversion, manifests itself in a special way in an individual through the predominance of one of the four basic functions. Strictly speaking, there are no introverted and extraverted function-types, as much as these influences are shown through one's inclination toward the thinking, sensing, feeling, and intuitive functions. According to Jung, there are thus at least eight clearly distinguishable types.

The Myers-Briggs Type Indicator as a Measure of Personality

Jung's theory of psychological types led to the development of the Myers-Briggs Type Indicator (MBTI) (Myers & McCaulley, 1985). This instrument was developed as a means of making Jung's ideas understandable and useful in people's lives. The MBTI is based on Jung's ideas about perception and judgment, and the attitudes in which these perceptions and judgments are experienced in different types of people. The aim of the instrument is to identify, from self-report of easily recognized reactions, the basic preferences of people in regard to perception and judgment in order
to operationalize the effects of each preference in research and in practice (Barbuto, 1997; Myers & McCaulley, 1985).

The Myers-Briggs Type Indicator is made up of four separate indices. Three of these indices were specifically described in Jung’s theory, while the fourth was added to describe the process a person uses in dealing with the outer world, a process that was implied throughout Jung’s writings. The preferences affect not only what people will attend to in any given situation, but also how and what they perceive and how they draw conclusions. The MBTI measures preference for each of the four scales, which in combination make up a person’s psychological type, leaving 16 possible type combinations. Although Jung hypothesized that each individual had a preference for using one end of each pole, he theorized that by combining each of these four preferences into one specific type, one could begin to describe the characteristic ways each individual deals with the external and internal world.

As a description of Jung’s two attitudes and four functions were summarized above, and the four indices of the MBTI are directly related to the theory, only a brief description will be reiterated here. The Extraversion-Introversion (E-I) index was designed to reflect whether a person is an extravert or an introvert, or rather attempts to measure one’s preferred method for relating to the world. The Sensing-Intuition (S-N) index was designed to reflect a person’s preference between two opposite ways of perceiving, either by reporting observable facts and happenings through one of the five senses (S) or by reporting meanings, relationships and/or possibilities out of reach of consciousness and relate more to one’s “gut feelings” (N). The Thinking-Feeling (T-F) index was designed to reflect a person’s preference between two contrasting ways of
judging, either by deciding impersonally on the basis of logical consequences (T) or deciding primarily on the basis of personal and social values (F). Finally, the Judgment-Perception (J-P) index was designed to describe the process a person uses primarily in dealing with the outer world (Myers & McCauley, 1985).

Recent research applications of the MBTI include such areas as counseling (Myers & Myers, 1980; Newman, 1979), career counseling (Apostal & Marks, 1990; Pinkney, 1983), creativity (Tegano, 1990), learning (Drummond & Stoddard, 1992), and construct and convergent validity of the scales (Carlson, 1985; Comrey, 1983; Hicks, 1984; Lorr, 1991; MacDonald, Anderson, Tsagarakis, & Holland, 1994; Morehouse, Farley, & Youngquist, 1990; Steele & Kelly, 1976; Thompson & Borrello, 1986).

**Types of Organizations: Applying the Theory to the Environment**

As a true method of using Jung's theory of psychological types in an effort to match persons to environments, Bridges (1992) applied the types described by Jung in characterizing various types of environments or organizational structures. Bridges described Extraversion or Introversion as the organization's orientation, the location of its reality, and the source of its energy. If the organization is primarily outwardly oriented toward markets, competition, and regulations, it can be referred to as extraverted; or if it is inwardly oriented toward its own technology, its leaders' dreams, or its own culture it can be referred to as introverted.

Sensing or Intuition relates to how the organization gathers information, what it pays attention to, how it "perceives." If the organization is primarily focused on the
present, the details, and the actuality of situations it is described as sensing. If it is primarily focused on the future, the big picture, and the possibilities inherent in the situation, it is described as intuitive.

According to Bridges, Thinking or Feeling relates to the organization’s way of processing information, its manner of judging situations, and its way of making decisions. If it does these things by an impersonal process so that decision-making happens on the basis of principles like consistency, competence, and efficiency, it is known as thinking. If, however, it processes information through a personal process that depends on values like individuality, the common good, or creativity it is described as feeling.

Judging and Perceiving relates to how the organization tends to deal with its external world, either through one of the judging functions (thinking or feeling) or through one of the perceiving functions (sensing or intuition). Organizations in which judging predominates prefer to reach firm decisions, define things clearly, and get closure on issues. Organizations in which perceiving predominates are always seeking more input, preferring to leave things loose, or opting to keep their choices open.

Bridges’ (1992) description of organizational types can be useful in conceptualizing adjustment to incarceration. Most prisons appear to fall under an ISTJ or ESTJ description. However, many individuals in a prison setting will differ significantly from these two whole types, which could potentially lead to greater than typical difficulties in adjusting to this dissimilar environment.

The following description of an ESTJ organization may lend to an understanding of what may be expected of both employees, as well as inmates, in a
prison setting. However, it should be kept in mind that prison environments also appear to have many qualities of an I attitude in addition to aspects of an E attitude. An ESTJ type of organization has an administrative or operational flavor to it. It has a strict set of rules. There are clear responsibilities and definite procedures, and they are consistent and logical. Details are attended to and there is a distrust of abstract ideas or concepts. Dissenting voices are at best thought of as complainers and at worst troublemakers. The ESTJ organization tends to be hierarchical, and status and "turf" are considered important. This type of organization is not very responsive to individual differences. The people who fit best in the ESTJ organization like things to be predictable. They are realistic and like interactions within the organization to be more formal than informal. Generally speaking, people should do their duty, subordinate their personal needs to the general good, and should "act the right way."

Use of the MBTI in Prison Settings

The Myers-Briggs Type Indicator has been used in diverse areas such as counseling, vocational guidance, communication, and leadership (Murray, 1990). Use of the MBTI in jail and prison settings has been rare. However, use of the instrument in these settings over the last 10 to 20 years has begun to increase. Linton and Whitehead (1981) used the MBTI in an Illinois jail in an attempt to improve inmates' self-understanding, which itself was hoped to lead to more improvement during counseling. They found their study sample to be heavily oriented toward an IS combination, with some tendency toward the thinking and perceiving scales.
Gibb (1989) investigated the use of the MBTI in a Pre-Release Center (PRC) in Montgomery County, Maryland. This center conducts a program for criminal offenders near completion of their prison sentences or who have been directed to serve time in the center in lieu of a prison sentence. Approximately 86 percent of the participants successfully complete the program. The remainder fail to complete the program and are generally transferred to higher security detention centers to complete the remainder of their confinement. To assist the PRC staff in increasing the effectiveness of their program and in lowering the number of residents revoked from the program, Gibb’s study addressed two specific questions: (1) How do the personality characteristics of the residents differ from those of the general population?, and (2) Do the personality characteristics of those who successfully complete the program differ from those of revokes? In the PRC sample, I’s, J’s, SJ’s, and SF’s were significantly overrepresented, with an underrepresentation of NT’s and SP’s. Additionally, SF’s were significantly overrepresented in the group revoked from the program.

In a study comparing the general population with a sample of male substance abusers, Luzader (1984) found that substance abusers were more likely to be I’s. In addition, in the sample of introverts, INFP, INTJ, ISTJ, and slightly less so, INFJ appeared to be overrepresented. In the group classified as extraverts in this sample, there appeared to be an underrepresentation of ESFP, ESFJ, and ESTJ types. Luzader commented that the MBTI appears to be a useful tool in “breaking the blaming communication pattern” which appears to predominate in alcoholic families. Although this study did not employ a prison sample, the results are relevant in that a large
percentage of inmates are incarcerated on some type of drug or alcohol charge or report that substance abuse was somehow related to their incarceration.

Lippin (1990) used the MBTI with a sample of 100 women in a prison setting and found an overrepresentation of ISTJ, ISFJ, and ISTP types and an underrepresentation of ESFJ and ENFJ types when compared to an unincarcerated sample of high school graduates (Myers & McCaulley, 1985). Lippin found no differences in the expected and observed frequencies for type and crime, with the exception of drug crimes. Long, Lenoir, Phung, and Witherspoon (1995) attempted to replicate Lippin's results using a sample of 108 incarcerated women in a state prison. Results of this study compared with those of Lippin, with an overrepresentation of ISTJ, ISFJ, and ISTP types and an underrepresentation of ESFP and ESFJ types. Further analysis of the types and the relationship to criminal offense was not significant. Finally, Livernoise (1987) compared a sample of inmates in the Orange County Jail to a sample of the general population found in the MBTI manual (Myers & McCaulley, 1985). Once again there was an overrepresentation of ISFP and ISTP types and an underrepresentation of ESTJ types in the prison setting.

While recent studies have begun to point to the personality types of individuals found in prison settings, only a small number of studies have been conducted using the MBTI. Further studies expanding the MBTI research to a large number and varying types of prison settings are warranted. Furthermore, as addressed by Lippin (1990), knowledge of psychological types in prison could have implications for dealing with roommate assignments, disagreements and conflicts, and other facets of prison life. Lippin also suggested that the overrepresentation of I’s and S’s may also indicate a
population of inmates who have more difficulty adjusting to prison life than other
types may have. Use of the MBTI could potentially assist in developing a better
understanding of the personality makeups of individuals with difficulties in adjusting to
a prison setting, in reducing conflict and violence in prison, and in planning appropriate
counseling and treatment programs.

Trait Versus Type Models

There are essentially two ways of conceptualizing personality characteristics, via
trait models or type models (Carless, 1999). In the field of personality, a trait is known
as a single characteristic present in all people in varying degrees. When personality is
described in terms of traits, it is assumed that everyone will have the same
characteristics but will differ in the degree or amount of the characteristic present. In
other words, the differences among individuals are due to how much or how little they
have of each of the traits in human personality. Trait theory approaches tend to
predominate among many psychologists and researchers. Different trait theories vary
primarily in the number and nature of the traits believed to be sufficient in explaining
human personality (Myers, McCaulley, Quenk, & Allen, 1998).

Perhaps the most widely accepted trait approach is the five-factor model of
personality. The five-factor model was derived using the lexical approach. Beginning
with the work of Allport and Odbert (1936), several studies have attempted to specify
the range of personality traits by examining English-language trait names. The
assumption is that native speakers would have evolved words for all the important
individual differences. Independently, Block (1961) sought to provide a universal,

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clinically based language for describing all the important aspects of personality. Research from both these traditions has converged on the five-factor model of personality (McCrae, Costa, & Busch, 1985; Norman, 1963). The same five factors have also been identified in studies of several personality inventories (Costa & McCrae, 1985; McCrae & Costa, 1987).

The five-factor model of personality postulates that personality can be summarized by five broad, orthogonal dimensions that are known as Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (Carless, 1999). The five-factor model is generally tested using the instrument known as the NEO-Personality Inventory (NEO-PI). Neuroticism, or emotional stability, reflects the predisposition to experience negative emotions such as anxiety or depression (Costa & McCrae, 1985). Extraversion is described by characteristics such as gregariousness, sociability, and assertiveness. Openness to Experience is generally thought of as an openness and flexibility to feelings and new ideas. Agreeableness is made up of characteristics such as altruism, trust, nurturance, or cooperation. Finally, Conscientiousness is described by the characteristics of persistence, responsibility, and achievement striving. (Carless, 1999).

The MBTI differs from the five-factor model in that it follows a type approach. The type approach is generally based on a theoretical model, rather than on a lexical approach of naming given personality characteristics or labels. Also, unlike most other trait models and instruments, the MBTI is assumed to measure truly dichotomous types or functions. Most trait models assume that traits are measured along a continuum, with individuals on either extreme of the continuum generally thought of as having either a
deficit or an overabundance of that trait. The intent of the MBTI is not to measure people or the traits that they possess but rather to sort people into groups to which, in theory, they already belong (Myers, McCaulley, Quenk, & Hammer, 1998). The MBTI seeks to identify a respondent's status on either one or the other of two opposite personality characteristics, both of which are regarded as neutral in relation to emotional health, intellectual functioning, and psychological adaptation. Although both instruments have received a great deal of support, as well as criticism, among practitioners, the MBTI was chosen for the present study for the following reasons: (1) its background on theoretical approaches to personality, (2) its utility with a wide range of the population, (3) the ability to apply the person-environment approach by also deriving a "type" for the organization, and 4) due to its wide use in explaining individuals' personality characteristics not only to professionals, but also to the individuals themselves, their friends, and possibly their families.

Factors of Deprivation Contributing to Prison Pressure

Literature on prisonization has begun to stress the belief that both internal and external stimuli can contribute to the pressures of incarceration and strategies used to cope with prison life. In the mid-1950s, Sykes expanded on Clemmer's work in his analysis of an inmate social system in a maximum-security prison. Sykes (1958) described a number of "deprivations" that he believed increased the pressure of confinement and the pains of imprisonment. These deprivations include, but are not limited to: (1) deprivation of liberty, (2) deprivation of goods and services, (3) deprivation of heterosexual relationships, (4) deprivation of autonomy, and (5)
deprivation of security. When speaking of the deprivation of liberty, one is actually speaking of a process that is twofold. The loss of liberty is a double on - first, by confinement to the institution and second, by confinement within the institution. It is true that visiting and mailing privileges may partially relieve the prisoner’s isolation, dependent of course on whether or not he can find someone to visit or write to him and whom the prison officials will approve as a visitor or correspondent. Many inmates, however, have found that their links to persons in the free community begin to weaken as the months and years pass. However, one of the factors that may make this pain of imprisonment bite most deeply is the fact that the confinement of the individual represents a deliberate, moral rejection of the criminal by the free community. This rejection may often lead to a reevaluation of one’s worth and importance in an already lonely and confusing world. The prison administrators only increase this moral rejection by requiring the inmate to become nothing but a number on the back of a uniform, a shaven head limiting one’s individuality, and a pawn ordered to provide gestures of respect and subordination when addressing officials (Sykes, 1958).

A standard of living can be hopelessly inadequate, from the individual’s viewpoint, because it bores him to death or fails to provide those subtle symbolic overtones which we invest in the world of possessions. This dearth is the core of the prisoner’s problem in the area of goods and services. He wants, or even believes he needs, not just the so-called necessities of life but also the amenities. Poverty due to one’s own mistakes or misdeeds represents an indictment against one’s basic value or personal worth, and few men can philosophically bear the want caused by their actions. Whatever the discomforts and irritations of the prisoner’s Spartan existence may be, he
must carry the additional burden of social definitions that equate his material
deprivation with personal inadequacy (Sykes, 1958).

The deprivation of heterosexual relationships has been described as one of the
most difficult aspects of imprisonment (Cohen & Taylor, 1972). A society composed
exclusively of men tends to generate anxieties in its members concerning their
masculinity regardless of whether or not they are coerced, bribed, or seduced into an
overt homosexual liaison. It is not unusual for heterosexual men to become involved in
homosexual acts while in prison. While the release of sexual tension may be satisfied, a
questioning of one's moral convictions can add a significant amount of pressure and
confusion to an already difficult situation. Latent homosexual tendencies may also be
activated in an individual without being translated into open behavior and yet still
arouse strong feelings of guilt at either the conscious or unconscious level. The
prisoner's self-image or "looking-glass self" (Sykes, 1958, p. 70) begins to become only
that portion of the prisoner's personality recognized or appreciated by men, and this
misdirected sense of identity is made hazy by the lack of contrast that the presence of
women would bring.

The deprivation of autonomy can be described as one's loss of freedom. From
the viewpoint of the inmate population, it is precisely the triviality of much of the
officials' control that often proves to be most galling. According to Sykes (1958), most
prisoners, in fact, express an intense hostility against their far-reaching dependence
upon the decisions of their captors. Therefore, the restricted ability to make choices
must be included among the pains of imprisonment along with restrictions of physical
liberty, the possession of goods and services, and heterosexual relationships.
Additionally, while prisoners are required to abide by the regulations set forth by the administration and correctional staff, hostility is often increased because many of these rules do not make sense from the prisoner's point of view. The important point according to Sykes (p. 75), however, is that the frustration of the prisoner's ability to make choices and the frequent refusals to provide an explanation for the regulations and commands descending from the bureaucratic staff involve a profound threat to the prisoner's self-image because they may reduce the prisoner to the weak, helpless, dependent status of childhood. For example, public humiliation, enforced respect and deference, the finality of authoritarian decisions, and the demands for a specified course of conduct are all aspects of a child's sense of helplessness in the face of a superior adult world, as well as the inmate's helplessness in the face of a controlling authoritarian world (p. 76).

Finally, the deprivation of security significantly contributes to the stress induced by incarceration. Especially in the more violent, high-security facilities, inmates describe a feeling of constant dread, of always being forced to be on guard, and having to look over their shoulders for a possible threat. This pressure is increased when they are forced, not only to fear their peers, but are also fearful of the same individual responsible for protecting him. Correctional officers, particularly in the penitentiary setting, have often been a source of cruel, extreme, and often unpredictable violence (Sykes, 1958; Toch, 1977).

Similar to Sykes, Toch (1977) listed seven "environmental concerns" which he stated may produce different levels of stress on inmates: privacy, safety, structure, support, emotional feedback, activity, and freedom. Privacy is defined as the concern
about social and physical overstimulation. It is composed of a preference for isolation, peace, quiet, and the absence of environmental irritants. Safety, as defined by Toch, refers to the concern about one's physical well-being. It is defined by a preference for social and physical settings that provide protection and minimize the chances of being attacked. Third, structure is a concern about the stability and predictability of the environment. It consists of a preference for consistency, clear rules, and orderly and scheduled events and impingements. Next, support is the concern about reliable assistance from individuals and settings and about services that facilitate self-advancement and improvement. Emotional feedback was defined by Toch as the concern over being loved, appreciated, and cared for by others. It is the desire for intimate relationships that provide emotional sustenance and empathy. Activity is described as the concern about understimulation. It can be thought of as the opposite of privacy and has been depicted as a need for maximizing the opportunity to be occupied and satisfy a desire for distraction. Finally, freedom is described as the concern about the circumscription of one's autonomy. It is the need for minimal restriction and for the maximum opportunity to govern one's own conduct.

Individual differences in the way in which inmates approach time use can help to explain a great deal about the coping styles and coping skills of different individuals in stressful situations. The lack of eventfulness characteristic of prison life can become a general stressor for inmates; however, activity levels acquire more salience for some inmates than for others. Activity can serve a number of purposes for coping with the environment. It can help to release pent-up emotions, can distract attention from pain, or can even serve as an anesthetizing agent. For inmates, activity may help to keep the
mind from being overly concerned with unpleasant thoughts or memories of the outside world. Being busy can also serve a physiological function in that it stabilizes the economy of the mind by discharging tension, modulating moods, and providing a focus for the release of restlessness. Overall, activity can become the valve for self-release, self-stabilization, and self-control (Toch, 1977). Lack of activity contributes to the pressures of imprisonment by making life seem overly idle and creating the perception that time is moving even more slowly than already felt by incarcerated individuals.

In large part, privacy can be thought of as the opposite of activity. Where as the purpose of activity is to enrich experience through self-stimulation, privacy involves the reducing of external stimuli in order to simplify the task of purposive adjustment. The desire for privacy can be thought of as the need for obtaining freedom from noxious stimuli. Within a prison setting, especially within the walls of modern institutions, overcrowding plays a significant role in the ability to seek private moments. Prochansky et al. (1972) claimed that one concern with crowded facilities is with intrusion into "anonymity." The person in this situation often feels personally invaded given that there are no opportunities for the unobserved discharge of activities defined as intimate, personal, or private, particularly those activities that do not fall within the public realm of what most men would choose to convey. Coping styles conflict where one man seeks to protect his integrity by reducing undesired stimulation, while another seeks to cope with the pressures of confinement by maximizing his information flow and by creating stimulating social networks (Toch, 1977).

It is easy to see how a concern for one's safety can play a large role in the ability of incarcerated individuals to cope with their environment. Toch's description of safety
issues is similar to Syke's description of the deprivation of security. The aim for individuals with a high-safety concern is to escape conflict. When stress builds, the tension must eventually either be controlled or somehow discharged. High-safety individuals become easily frustrated with environments that do not appear to have adequate checks on explosiveness and violence. Within the prison setting, some groups of people are inevitably weak in self-control. Such individuals are often feared by the larger system due to their ability to attack or victimize others upon the slightest provocation. This emotional disequilibrium or loss of control in others has sometimes been ascribed to the stress produced by the situation (Toch, 1977).

The dynamics of the situation known as imprisonment can often lead to a cycle of stress. Within the institutional setting, a large number of men have become presensitized to the violence they are frequently required to experience and soon learn to scan the world for cues to danger. Some of these men may quickly begin to feel powerless and fear the unpredictability of other men. This fear may lead to withdrawal behavior due to external pressures from others. Violence and its control become the main theme of the inner and outer environment (Toch, 1977). The man-environment match that must be achieved includes not only physical safety from others, but the facilitation of an adjustment mode that permits self-regulation, relaxed impulse control, and trust.

Glasser (1998) describes the need for belonging as the desire for healthy, rewarding relationships from others. Toch (1977) reports that the person concerned with emotional feedback sees his or her ideal environment as "warm," responsive to moods and feelings, supportive of psychological change, or interested in the individual's
happiness and personal adjustment. The high-feedback inmate may look to his or her family as an important, sustaining source of love. Although many prisons have begun to loosen visiting rules, an inmate’s contacts with the outside world remain rationed and relatively meager (Toch, 1977). There is large variability among inmates in the degree to which this fact remains salient and to which it impinges on their ability to adjust.

Where feedback from others is a high concern, breaks in communication act as debilitating forces. Interruptions in contact from others can become crisis promoting, with even short lapses leading to periods of depression, worry, confusion, or obsessive concern. The issue of one’s efficiency also arises for inmates whose sense of identity and worth in the outside world is tied to their roles as providers, nurturers, and influential family members.

Prisons serve a number of functions, primarily to punish or deter, to rehabilitate, or to reintegrate an individual into society. Problems can arise in prison settings through the commingling of individuals oriented differently toward available supports. Support can be seen as having long-term or short-term benefits. Those interested in long-term goals may use supports as a means for uncovering options or possibilities not yet found, such as a future career or job-skill. A good number of inmates, however, use internal support mechanisms, such as self-help groups, as a means for short-term improvement or as an attempt at impressing key people into making decisions that favor their immediate interests. This short-term view of support can become troublesome and stressful to those who ascribe to the long-term view. For instance, an individual seeking to find a genuine career path may become resentful of the inmate who consistently stifles the group by having no serious or legitimate interest in his or her involvement.
One aspect of support is known as social support in the shape of peers who are strongly inclined toward achievement. These individuals can provide each other with mutual assistance and can help strengthen one’s resolves. Another aspect of support is the notion of being met “halfway” (Toch, 1977). A number of prison facilities lack the ability to provide the inmate with not only the tools for future success but also with an expression of human interest. Where the manifestation of one’s desire to achieve meets no reciprocity, the environment is perceived as hypocritical. The inmate’s level of stress is likely to be increased when an institution claims to take a rehabilitative stance yet fails to provide a number of adequate programs to achieve these goals.

It is safe to say that some individuals are more comfortable with ambiguity, and others require much more structure in their daily lives. State and federal prisons are generally thought of as highly structured, with higher security level facilities more regimented than those requiring lower levels of security. Stability in the social environment entails predictability of other people’s conduct as it impinges upon one’s own. Prison facilities can add some stability through the use of adequate classification and grouping procedures. Segregation among inmates can serve to secure social compatibility and match features of the environment with the capabilities and behavior patterns of its inmates. According to Toch (1977), high-structure inmates value staff that provide consistent, traditional roles. Even though correctional officers exercise control over the inmate’s environment, they also help to provide a sense of stability and structure. However, low-structure inmates may come to resent the regimented schedule they are required to follow. Furthermore, for correctional officers to provide the sense of structure, their behavior as a whole must also be consistent, clear, and reliable.
Levels of stress and the ability to cope will be affected to the extent that behavior is unpredictable and random.

The theme known as freedom or autonomy, as similarly described by Sykes (1958), plays a large role in the functioning of the prison setting. One of the primary functions of incarceration is the cessation of one’s freedom and the loss of personal privileges. The history of the American penal system includes some of the most sadistic examples of abuse of power in the taking of individual freedoms (Johnson, 1996). Where a controlling environment hinders previously uncontrolled individuals, it may also invite resentment and helpless rage. The extent to which an inmate decides to be obedient to the rules and regulations of the prison staff can lead to various levels of inmate stress and preoccupation. Milgram’s (1974) work, interpreted by Kelman (1961), points out that while some people may be prone to obedience as an ingrained behavior tendency, others are also prone to disobedience. The most “obedient” persons may respond to authority with ease, but the disobedient conform under conditions of duress (Kelman, 1961). When considering the impact of freedom within a correctional institution, one must also take into account the aspect of physical freedom. Prison settings, by design, limit an individual’s space, activity, and chance to move about freely. Physical freedom may play a salient role in adjustment that holds a value in and of its own.

Sykes (1958) and Toch (1977) provide a good example of how imprisonment can be painful. The pains of imprisonment, however, cannot be viewed as being limited to the loss of physical liberty. The significant hurts lie in the frustrations or deprivations which attend the withdrawal of freedom, such as the lack of heterosexual relationships,
isolation from the free community, withholding of goods and services, and so on. However painful these frustrations or deprivations may be in the immediate terms of thwarted goals, discomfort, boredom, and loneliness, they carry a more profound hurt as a set of threats or attacks directed against the very foundations of the prisoner's being. The individual's picture of himself as a person of value and as a morally acceptable, adult male who can present some claim to merit in his material achievements and his inner strength often begins to waver and grow dim, affecting his ability to adjust appropriately to the world of incarceration.

Definition of Adjustment to Incarceration

Because it becomes increasingly clear that the measurement of adjustment to incarceration and one's ability to adequately cope with incarceration has been, and continues to be, an area of concern in the field of corrections, the definition of adjustment in corrections has historically stemmed from a custodial point of view, rather than being treatment oriented. Adjustment, as considered by prison officials and researchers focusing on prison maladjustment patterns, has been defined and measured almost solely on the basis of behavioral measures. For example, those inmates with larger numbers of rule infractions have been described as maladjusted, and those inmates with few to no problems in the area of misconduct have been labeled as well-adjusted (Megargee & Carbonell, 1985; Panton, 1958, 1962; White, 1981).

The definitions of adjustment and maladjustment based solely on behavioral measures have been somewhat inconsistent with the definitions of adjustment found in the field of psychology and mental health. In fact, with the increasingly popular trend of
housing individuals with mental health problems in prisons rather than in inpatient hospitals or sanitariums, this discrepancy in the definition of adjustment has begun to lead to conflicts of interest between prison officials and mental health professionals employed in prison settings. This is a difficult discrepancy to solve due to conflicting needs on the part of administrative personnel and on the part of the non-conforming individuals. On the one hand, the security of society must be maintained at all times, but on the other, a more permissive therapeutic atmosphere and attitude is often necessary to effect genuine personality and behavioral changes (Fox, 1958).

If considering maladjustment on the basis of security and custodial issues, it is clear why disciplinary problems would be the obvious choice of focus. Disciplinary problems constitute a threat to an administration because they disrupt the order, tranquility, and security of the institution. In most adult penal institutions in the United States, psychological and social treatment ceases when rules are violated, and the offenders are commonly placed in solitary confinement, segregation, or in other forms of punishment status. Upon violation of the rules, prisons are then faced with a policy dilemma in their common decision to withdraw treatment from those individuals, who by their unacceptable behavior have demonstrated that they need treatment the most (Fox, 1958).

Widespread research has tended to view various modes of adjustment as isolated, static examples of behavior rather than examining prison adjustment levels as multifaceted, fluid, and changeable. Inmates, as well as any other individuals faced with the stressful aspects of life, adopt various positive and negative ways of coping, depending on a multitude of factors. Due to the changes in the demographic makeup of
the prison environment, the enforced control and strict supervision of inmate behavior through an extensive array of restrictive rules and regulations has become a significant area of concern to corrections. Prisoners who do not present as serious disciplinary problems are considered by those who govern them to be "better" inmates, that is, individuals adjusting more or less successfully to the prison environment. However, prison disciplinary records alone are by no means an adequate method of measuring inmate adjustment. Perhaps the strongest charge levied against official criminal justice records of any type is that they are subject to bias. First, an unknown but probably large amount of deviant behavior occurring in prison is likely hidden from official security. Like any other social system, unwritten rules and violations of written policies can be found among inmates attempting to develop their own sense of community structure. Second, correctional officers have a vast amount of discretion in the definition and detection of events or acts that culminate in the officers recording of a disciplinary infraction. Nevertheless, in spite of these limitations, inmate misconduct as measured by official records of disciplinary infractions is still an attractive data source and one widely used by researchers.

It should be noted that institutional misconduct (as measured by disciplinary infractions) cannot be entirely explained in terms of inmate characteristics because any human behavior is relative to a host of internal and external factors. Such behavior can also be explained in relation to the prison environment itself and experiences germane to the environment. For instance, the nature, type, and severity of disciplinary problems faced by a given prisoner can be affected by such factors as whether the inmate holds a prison job and the type of work assignment, involvement in treatment or other prison
programs, sentence length and time served, the demographic nature of the general prison population, housing unit assignment, the extent of prison overcrowding, involvement in inmate gangs, etc. It is also important to note that lack of involvement in disciplinary infractions is not necessarily a definitive and conclusive indicator of positive or successful adjustment. For instance, attempting suicide, being a sexual victimization target, or having psychological problems may not necessarily precipitate disciplinary infraction charges but are nonetheless negative indicators of prison adjustment (Toch & Adams, 1989). For researchers to gain a better understanding of inmate adjustment patterns, other measures that go beyond the mere recording of number of disciplinary infractions are needed. Psychological research in the area of stress and coping has led to the development of a number of coping measures that may be used for this purpose. Additionally, a look at more recent advances with research in the area of dispositional coping styles also appear to be attractive additions to correctional research. Measures that account for self-reported perceptions of varying levels of distress are needed to gain a better understanding of the actual effect of incarceration on adjustment.

The Possible Range of Maladjustment in a Prison Setting

Facts about the Current State of Incarceration. Recent trends in incarceration have shown that rates of imprisonment continue to grow at alarming rates. With these increases in incarceration rates comes an accompanying need for more staff, resources, programs, and facilities. Between May 1999 and July 2000, the total number of incarcerates individuals in federal facilities grew from approximately 110,000 to
143,218, and the number of federal prisons grew from a total of 90 to 97, with even more plans for new facilities within the next five years (Federal Bureau of Prison Quick Facts, 2000). Of those currently incarcerated, the number of minority individuals also continues to grow, with Hispanics (32.3%) and African-Americans (38.8%) quickly gaining on the number of White inmates (57.9%). The type of offenses currently being committed also leads to a need for more attention to programs and treatment, with Drug Offenses leading at an alarming 58.1% of all convictions. Finally, with the increases in rates of incarceration, a need exists for more staff, with current numbers of employed individuals reaching over 31,000 and the total cost of running these facilities currently over 3 billion dollars (Federal Bureau of Prison Quick Facts, 2000).

Looking at the broader picture, Torrey (1995) quoted a 1994 press release from the U.S. Department of Justice stating that American jails held 454,620 inmates in 1993, state and federal prisons held another 909,185 inmates, and yet another 671,470 released inmates were on parole. These numbers are shocking but constitute a reality of crime and incarceration in the United States today. With changes in sentencing laws leading to higher numbers of incarcerations and longer sentences, a return to a concern over and interest in adjustment to incarceration is needed. Perhaps now more than ever, the possibilities of the effects of maladjustment in a prison setting are of constant interest to administrators. Though today’s prisons are seen as much more humane than in the past, violence, escapes, and possible riots continue to be a reality of prison life. A focus on and better understanding of the factors involved in adjustment to incarceration is needed.
Prevalence of Mental Illness in Prison. Along with these statistics, researchers find a growing prevalence of mental illness in prisons. As the availability of mental hospital beds has fallen over the past 20 years, the number of people with mental illness in prison has risen (Gunn, 2000). A Washington study (Jemelka, Wiegand, Walker, & Trupin, 1992) of state facilities found prevalence rates of 3.7% for mania, 4.4% for schizophrenia, and 10% for depression. Similar rates have been found in California, Michigan, and Ohio (Bean, Meirson, Pinta, & Melvin, 1988; Cotton, 1989; Neighbors, 1987). A New York study using counselors and mental health professionals to complete a variety of rating scales found that 8% of prisoners had severe psychiatric and functional disabilities requiring mental health service, and an additional 16% had significant psychiatric and functional disabilities requiring periodic services (Steadman, Fabisiak, Dvoskin, & Holohean, 1987). From these studies, it can be inferred that, by the late 1980s, at least 10% to 20% of state prisoners were suffering from major mental disorders and were in need of psychiatric services, with these numbers continuing to grow steadily (Lovell & Jemelka, 1998). In fact, by midyear 1998, an estimated 283,800 mentally ill offenders were incarcerated in the nation’s prisons and jails. In recent surveys completed by the Bureau of Justice Statistics, 16% of state prison inmates, 7% of federal inmates, and 16% of individuals in local jails reported either a mental condition or a previous overnight stay in a mental hospital (Ditton, 1999).

Regardless of improvements over recent decades, imprisonment remains a painful and stressful situation. The Social Readjustment Rating Scale (Marston, 1993) ranks a jail term fourth in terms of stressful life events, surpassed only by the death of a spouse, divorce, and marital separation. As previously mentioned, the popular definition
of adjustment by prison administrators continues to focus on behavioral indicators such as disciplinary infractions and misconduct levels alone. However, it is clear to see that a broadening of the common definition of adjustment is necessary. While misconduct remains an important factor in administrative policy, the numbers of inmates suffering from some type of mental illness or mental health problem indicate that not all of the individuals having difficulties in their ability to adequately function are committing rule infractions. In fact, it is not unusual for those having difficulties adjusting to prison life to initially withdraw or internalize their symptoms, rather than to draw attention to themselves externally. According to Lipton (1960), anxiety states occur probably ten times as frequently among inmates of penal institutions than among individuals in the general population. In his examination of these individuals, he reported that it was common for tension and depression to set in, especially immediately after confinement when the expectations of prison life may still be relatively unknown. In extreme cases the prisoner may become silent and "lost in brooding" (Lipton, 1960, p.217; Scott, 1969). Lipton further described that the anxiety state may be manifested by a condition of apathy with an inability to concentrate and difficulty in thinking, often accompanied by nervousness, insomnia, headaches, lack of energy, dizziness and other neurotic manifestations. Finally, in rare but some cases, the progression of symptoms may lead to active hallucinations and delusions or suicidal gestures or attempts, with almost total inability to function in the daily routine of prison life (Danto, 1973; Lipton, 1960; Paskind & Brown, 1940; Sloane, 1973; Thompson, 1940).

While these descriptions may seem extreme to some, especially in light of recent changes and efforts to improve modern prison facilities, the increase in mentally ill
individuals in prisons makes these characterizations all the more common. Nearly all prison, both state and federal, now require fully staffed mental health departments. In addition, more and more individuals found "Not Guilty By Reason of Insanity" or "Not Competent to Stand Trial" are placed in secure penal institutions during their treatment, rather than in private hospital settings or other forensic settings. The range of mental health problems stretches from mild difficulties, such as situational adjustment issues and mild depression and anxiety, to moderate problems often presented in somatic complaints, and finally to the more extreme disorders such as Bipolar Disorder, Psychosis, and Major Depressive Disorder. The separation of the inmate from family, loved ones, and friends, and the removal of emotional and sexual outlets often exacerbates these symptoms. These symptoms are also seen in the form of pre-release anxiety, when the inmate may once again begin to fear the possibility of rejection from those he values most and from society as a whole. Additionally, the form of the reaction may depend considerably upon the early life experiences of the individual (Lipton, 1960).

*Self-Mutilation and Suicide in Prison.* Another response to maladjustment within prison walls has been found in the act of self-mutilation, at times leading to actual suicide attempts or completions. Beto and Claghorn (1968) describe in detail some of the conditions within the Texas Department of Corrections that may have been associated with increased rates of self-mutilation between the 1930s and 1960s. According to these authors, as protests against the pervasive brutality of the times, desperate men chopped off their own hands and feet. Inmates were also known to slash
their Achilles' tendons with available razor blades or other sharp tools as a means of garnering sympathy and support for their immediate protests against the barbaric working conditions, putrid and tainted food, and filthy living conditions.

As times began to change in the early 1960s, inmates continued to resort to methods of self-mutilation; however, their motives for doing so were somewhat different. It was common for self-mutilation to be used as a form of attracting attention as a manifestation of self-pity, to escape a situation that could no longer be handled, or as a behavioral symptom for a more pervasive mental disorder such as Major Depressive Disorder or Psychosis. Self-mutilation has also been known to occur in response to situational circumstances such as fear of homosexual assaults, death of a family member, fear of brutality from other inmates or guards, desire to change a housing assignment, or a “Dear John” letter from a significant other or spouse (Beto & Claghorn, 1968).

Self-mutilation and suicide attempts continue to be a problem in prison facilities. Nearly every institution now has some form of special housing for an inmate who threatens or attempts to harm himself. At times, even without a direct statement or threat of suicidal ideation, inmates who appear to be overly depressed are placed briefly on suicide watch for fear that efforts to harm themselves may be possible. Research in the area of self-mutilation and suicide attempts has attempted to clarify the factors that may contribute to these behaviors. Racial differences in self-injurious behaviors have consistently been reported. The tendency has been for African-American prisoners to be under-represented and Caucasian prisoners to be over-represented (Albanese, 1983; Jones, 1986; Rieger, 1971; Thorburn, 1984). However, the number of Whites may be a
misrepresentation, with Hispanics often included in this category (Claghorn & Beto, 1967; Karp, Whitman, & Convit, 1991).

Temporal variables have also been linked to self-injurious behavior. About one-third of all self-injury episodes have been found to occur within the first week of imprisonment (Albanese, 1983; Kerkhof & Bernasco, 1990; Phillips, 1986). These findings among the literature on self-mutilating behavior correspond with findings within the prisoner suicide literature (Backett, 1987; Crighton & Towl, 1997). It appears that the early stages of imprisonment are a time of great adjustment in the individual’s life and a time when he or she may be most prone to thoughts of self-injurious actions.

In both adult prisoner and juvenile offender populations, a strong relationship exists between the use of isolation and/or segregation and self-injurious behavior. Repeated criticisms have been made over the use of placing suicidal inmates in isolation, possibly exacerbating their symptoms further. Virkkunen (1976) reported that inmates with a history of slashing behavior reported that most of their actions occurred at night or when noise in the prison had otherwise subsided. They often occurred when the inmate was alone in his cell or had been placed in solitary confinement because of his “troublesomeness” (p. 349). In addition, other inmates have explained their slashing behavior as a means of escaping the “closed space that was oppressive” (p. 349). Problems with the use of isolation as a response to self-injurious tendencies is further compounded by reports that many adult and young offenders are reluctant to admit suicidal ideation to staff for fear of being placed in a strip cell (Liebling, 1991). Johnson (1978) believes that rather than giving suicidal individuals a chance to “cool off,”
segregation provides them with a prolonged opportunity to ruminate about their problems, thus possibly increasing rather than reducing the risk of future self-injury.

The issue of where to place an individual in risk of self-harm is controversial among prison administrators and mental health staff. Inmates at the risk of self-injury are generally viewed by administrative staff as disruptive and manipulative and are treated in the same manner as other inmates committing various forms of misconduct. Placing these individuals in segregation, particularly in state facilities, is often handled, as well as perceived by inmates, as a form of punishment, rather than a means of treatment. Therefore, inmates are not always allowed to receive the appropriate therapeutic interventions or are unwilling to disclose to staff the degree of their maladjustment.

Mental health variables also show strong links with self-injurious and suicidal behavior (Livingston, 1997). Among adult male offenders, depression has consistently been linked with an increased propensity for self-harm (Bach-Y-Rita & Veno, 1974; Bland, Newman, Dyck, & Orn, 1990; Ivanoff & Jang, 1991; Lester, 1990; Shea, 1993). Feelings of hopelessness, characterized by pronounced pessimism about the future and a firm belief that life circumstances will not improve, have also been associated with suicidal ideation, both in prison as well as other populations (Beck, Kovacs, & Weissman, 1975, 1979; Haycock, 1989; Ivanoff & Jang, 1991; Livingston, 1994). Raised levels of anxiety also appear to be correlated with self-harm (Bach-Y-Rita & Veno, 1974; Virkkunen, 1976; Wilkins & Coid, 1991) and reports of significant reductions in feelings of tension after injury have been found in both inmate and hospital settings (Rada & James, 1982; Winchel & Stanley, 1991). Research that has
examined psychiatric disorders in adult prisoner self-injurers has identified a range of diagnoses. These include, but are not limited to, non-drug related auditory and visual hallucinations (Bach-Y-Rita & Veno, 1974), Borderline Personality Disorder (Franklin, 1988; Bland et al., 1990), Obsessive-Compulsive Disorder (Bland et al., 1990), and Schizophrenia (Bach-Y-Rita & Veno, 1974).

The Effects of Prison Overcrowding. Traditionally, American courts have chosen to take a hands-off approach in various prison cases involving allegations of brutality. However, with the increasing number of inmates and inadequate space to house them, issues involving the effects of overcrowding on levels of adjustment have been in the forefront of research, policy concern, and court decisions over the last several years. This traditional hands-off approach of courts gave way to judicial activism with the 1960s litigation over barbaric conditions in the Arkansas state prisons (Thomberry & Call, 1983). However, many of these earlier court cases involving issues such as poor sanitation, fire safety, medical care, mental health care, diet, and exercise were actually addressing a much broader concern over the deleterious effects of prison overcrowding (Thornberry & Call, 1983).

Researchers have investigated both the general and psychological consequences of prison overcrowding and the specific consequences of the double-bunking of cells designed for single occupancy (Adwell, 1991). A review of the literature by Thornberry and Call (1983) summarizes the findings from a number of available studies which should help litigants, courts, and prison administrators understand and identify any potential harmful effects of prison overcrowding in the future. A study by Megargee
(1976) examined the relationship between density and disruptive behavior at the Federal Correctional Institution at Tallahassee, Florida. Megargee's study included a number of variables such as: (1) average monthly population, (2) total space available for the inmates, and (3) a density index of the number of square feet of living space available per man per month. Inmate behavior was measured in terms of incident reports of disciplinary infractions. In general, the findings by Megargee's study suggest that prison overcrowding was associated with an increase in rule infractions primarily because each inmate had less available living space than at other times.

Similar results have been found by a number of other researchers (Ekland-Olson, Barrick, & Cohen, 1983; Leger, 1988; Sechrest, 1991). Nacci, Teitelbaum, and Prather (1977) gathered data concerning prison density and rule infractions in thirty-seven federal correctional facilities from 1973 to 1976. Results of their study indicated that density generally corresponds with the rate of inmate rule infractions. The association between density and rule infractions was particularly strong in institutions that housed juveniles and young adults. Within the adult institutions, however, the correlations tended to be lower and inconsistent. Carr's (1980) study examining prison overcrowding in Georgia prisons reached similar conclusions. Under a variety of measures of crowding, Carr found only a weak and inconsistent relationship between levels of crowding and rates of rule infractions for the general prison population. In the facility housing teenagers and young adults; however, strong associations were found between crowding and rule infractions.

In a study of four state prisons in Florida between 1972 and 1975, Jan (1980) examined the relationship between overcrowding and disciplinary infractions. He found
that overcrowding, as measured by the ratio of population to capacity, was not related to the number and rate of escapes. However, overcrowding was related to the proportion of disciplinary confinement, especially in those facilities housing much younger offenders. Of importance in this particular study, overcrowding was also significantly related to the rate of inmate assaults on other inmates in both the youthful and adult institutions under study. Overall, the studies that have examined the relationship between overcrowding and disruptive behavior suggest that overcrowding leads to an increase in the number of rule infractions, especially among younger populations. Additionally, the increased rate of rule infractions appears to depend more on the actual space available to inmates, not merely on the sheer numbers of those in confinement.

The effects of overcrowding have also been associated with inmate physical illness while incarcerated. King and Geis (1977) examined the spread of tuberculosis on one highly overcrowded tier of the Cook County Jail in Illinois, where an active case of tuberculosis was discovered. Results of their study suggest that overcrowded jail conditions may serve to promote considerably higher rates of tuberculosis than those found in the general population. In addition, their results suggest that the tuberculin rate is associated with exposure to tuberculosis while in confinement and not to the importation of tuberculosis into the jail by individuals of high risk.

Other studies of inmate health have examined the relationship between overcrowding and rates of illness complaints for a variety of ailments. Overcrowding has been associated with increased rates of complaints for backaches, nausea, rash, sinus problems, constipation, chest pain, and asthma (Paulas, Cox, & McCain, 1977). A study by McCain, Cox, and Paulas (1976) found that inmates in single cells had
significantly lower illness complaint rates than those living in a dormitory setting. Walker and Gordon (1980) also reported a positive relationship between overcrowding and illness in prisons. In addition, they cite a study by the American Medical Association that found "an extremely high incidence of communicable diseases among inmates in United States correctional institutions" (p. 56). In conclusion, studies have found that inmates residing in more crowded living arrangements, especially when the overall rate of overcrowding for the entire institution is high, experience higher rates of illness complaints than inmates living in less crowded surroundings.

Studies of inmate health have focused specifically on the relationship between overcrowding, stress, and hypertension. D'Atri (1975) investigated the relationship between prison overcrowding and hypertension, as measured by systolic and diastolic blood pressure. It was hypothesized that stress would increase with: (1) a crowded environment, (2) an enforced stay in that environment, and (3) a continuous subjection to that environment. In general, the results strongly support the first hypothesis. Inmates in more crowded conditions had significantly higher systolic pressure in three institutions studied and significantly higher diastolic pressure in two of these institutions. However, after controlling for height, weight, age, duration of confinement, and race, no significant changes were found between crowding and blood pressure. D'Atri also suggests that increases found in blood pressure after the first month of confinement are directly associated with prolonged confinement in a crowded environment. Paulas, Cox, and McCain (1977) also found a relationship between overcrowding and increased levels of hypertension, as measured in terms of palmar
sweat. Like those of D'Atri, their results indicate an association between crowding and stress due more to the number of cellmates than the amount of total space available.

In summary, overcrowding has been linked to a number of indicators of maladjustment. Although results do suggest that overcrowding can play a role in rule infractions and violence in prison, other forms of maladjustment have also been found. Once again, focusing on pure behavioral measures of adjustment and maladjustment may be overly limiting and may not serve to catch other problematic areas of concern until they have risen to the point of behavioral outbursts. If inmate concerns regarding overcrowding could be addressed before the onset of outward rule violations or violence, it may be possible to limit the number and severity of these incidents and may shift the focus of treatment to preventative measures, rather than to punitive ones.

**Extreme Maladjustment: Violence and Rioting.** Although maladjustment during confinement is expressed in a number of different ways, the most extreme forms of maladjustment are found in the form of violent behavior and riots. Due to their extremely serious nature, these behaviors have consistently made up nearly the entire definition of poor adjustment in the eyes of prison administrators. Those inmates capable, and more importantly, willing to follow the rules of their confinement are generally described as “good inmates.” However, the “bad inmate” is generally described as an individual who consistently exhibits aberrant behavior, is unruly, and shows utter disrespect for prison rules. This is the inmate who is more often feared, who may tend to spend a larger amount of time in segregation or on disciplinary status, and the type of inmate for which most rules are set up to control in the first place. However,
after extensive research in the area of prison violence, it is clear that most violent or rioting behavior is not instantaneous and that generally a number of precipitating factors have led up to the ultimate acts of violence and even death (Goldstone & Useem, 1999; Useem & Reisig, 1999).

Institutional disturbances have been linked to a number of contributing factors. Some of these contributing forces include, but are not limited to: (1) unresolved racial problems, (2) political situations, (3) problems with prison gangs, (4) overcrowding, (5) lack of programs or recreational opportunities, (6) inadequate responses from staff regarding complaints (i.e., food service, medical treatment, recreation, visiting or mail privileges), (7) poorly trained personnel or improper supervision, (8) misinformation or lack of information given to inmates, and (9) poor responses to mental illness or mental disorders (Bureau of Prisons, 1998).

There are also generally a large number of early warning signs before inmate grievances escalate to the point of creating a full-blown institutional disturbance. Inmates are often described as becoming more restless, with more frequent flare-ups of anger and hostility and an increase in the number of incident reports. Inmates may begin to avoid contact with staff members. There may be a decreased participation in popular programs and activities. There is often an increase in the number of incidents involving racial problems, gangs, assaults, and/or escape attempts. Inmates may begin to make an unusually large number of requests for change of housing or work assignments. There is generally an increased amount of complaining regarding prison conditions. Finally, steps should be taken if a larger number of inmates than usual begin to make
commissary purchases that point to the stockpiling of supplies and food items (Bureau of Prisons, 1998).

While rioting behavior is at the extreme end of maladjustment, most institutional problems never reach this point of escalation. In fact, with the increased knowledge from previous riots, advances have been made in the reduction in number and severity of institutional disturbances. However, institutional disturbances continue to occur even in today’s much improved facilities. In fact, just recently in the summer of 2000, two riots occurred in Louisiana’s state prisons, both stemming from political decisions involving Cuban inmates. In one of these riots, an officer and inmate were killed before the incident was brought under control. It is clear that measures must still be taken to better understand and ease the causes of institutional adjustment problems and precipitating factors to prison acts of violence.

A number of well-known riots illustrate the severity of riotous behavior and the lessons that can be learned from them. These incidents also illustrate some of the warning signs that may suggest that dangerous behavior is imminent. A prime example of how political situations can affect behavior and contribute to prison riots can be found in the reactions of Cuban inmates at both the Federal facilities in Oakdale, LA, and Atlanta, GA, after hearing news of their impending repatriation. On November 20, 1987, Tom Brokaw reported on the NBC “Nightly News” that a treaty had been signed between the United States and Cuba concerning the repatriation of Cuban prisoners in the custody of the Federal Bureau of Prisons (BOP). Within minutes of Brokaw’s announcement, seen by a number of inmates in the Oakdale institution, a drunken Cuban detainee at that facility staggered into the inmate dining room. He proceeded to
pick up a food tray and hurled it at the forehead of a food service supervisor while claiming that his actions were a protest to the repatriation accord. Other Cuban inmates in the dining hall soon began shouting and throwing their food and trays on the floor and across the room (Hamm, 1995, p. 3).

On Saturday, November 21st, Oakdale administrators ordered a full-scale alert, with Special Operations Response Team (SORT) staff reporting to work in full riot gear. At approximately 9:00 a.m., a detainee reported to correctional staff that a number of Cuban inmates had makeshift weapons and were planning to break through the front gate at sundown (p. 4). Later that afternoon nearly 250 Cubans exited their housing units and gathered together in the middle of the yard. They soon displayed homemade weapons including clubs, knives, and machetes, which they had apparently been making and hording for some time. These inmates soon began charging the front gate, breaking windows, and starting a large number of fires throughout the complex. Although they were repeatedly turned back by tear gas, they were undaunted in their task and continued to charge the front gate, eventually wearing staff manpower down and taking close to 30 hostages (pp. 5-6).

The standoff lasted through the next day and soon began to catch the attention of major news programs. Among those who learned of the riot were 1,394 Cuban detainees at the Federal Penitentiary in Atlanta, GA. On Monday, November 23rd, these inmates were called for their usual morning work call. However, on this particular morning, many of the Cuban detainees were wearing tennis shoes, rather than their standard issued work shoes and wore extra layers of clothing. These inmates also appeared quieter than usual and worked more slowly throughout the day. At about
10:30 a.m., a small group of detainees started a fire in the Federal Prison Industries shop (UNICOR) as a larger group began to overpower staff members throughout the yard. Soon, more than 800 Cubans appeared on the yard holding homemade clubs, knives, and machetes, as well as boards, chains, blowtorches, bolt cutters, and gasoline. Joining the inmates who had previously overpowered staff members, they seized a number of radios, keys, and handcuffs. Now the BOP was facing two full-blown institutional riots in the United States at one time (Hamm, 1995, p. 10).

These standoffs lasted for up to eleven days. During this time, hostages were exposed to numerous forms of psychological torture at the hands of their captures. Despite this psychological torment, only one known injury was inflicted on a hostage at Oakdale. More than 102 hostages were taken at Atlanta, with no serious injuries. On November 29th, negotiations at Oakdale finally began to make progress and the Cuban detainees eventually accepted an offer of an indefinite moratorium on deportations to Cuba. Soon, over 900 detainees laid down their weapons and freed the remaining hostages. The Atlanta siege would continue for another week where, like in Oakdale, the remaining inmates eventually laid down their weapons and released the remaining hostages. These two riots alone cost tax payers millions of dollars, virtually caused the entire BOP system to come to a standstill as every prison in the nation was placed on alert, implemented not only the services of the BOP, but also the National Guard, the U. S. Army, the U. S. Marshal’s Service, the Border Patrol, INS, the Salvation Army, the Red Cross, and many other services. While not much physical harm was done to either the inmates or hostages, both facilities were extremely damaged and in need of nearly complete repair. As a result of these riots, most Cuban inmates remain in the custody of
the BOP today, neither returned to Cuba nor likely to be released into the streets of America (Hamm, 1995).

Since 1970, more than 300 prison riots have occurred in the United States. Some have become as well known as the riots at Oakdale and Atlanta; however, some have not ended quite as peacefully. The riot at the New York Penitentiary at Attica began on September 9, 1971, when 1,281 of Attica’s 2,243 inmates took thirty-eight hostages in protest against inhumane treatment and deplorable living conditions. During the siege, three prisoners were beaten and stabbed to death after having been labeled informants or “snitches.” On September 13th, in an attempt to retake the institution, New York state troopers stormed the facility, leaving more than eighty prisoners wounded, twenty-nine dead, and eventually leading to the deaths of ten guards (Hamm, 1995).

The Santa Fe Riot of 1980 has been described as America’s bloodiest riot. Throughout the course of this riot, other inmates killed thirty-three prisoners, while another two hundred were raped, beaten, mutilated, and dismembered. More than a dozen prisoners were knifed or beaten to death with pipes and clubs. Twelve guards were taken hostage, stripped, bound, blindfolded, and brutally beaten (Colvin, 1992). The cost of repairing and rebuilding this one facility was estimated at $70 million. As a result of this riot, fourteen areas were ordered to be improved and monitored. These included correspondence, attorney visitation, food service, legal access, visitation, classification, living conditions, inmate activity, medical care, mental health care, staffing and training, administrative segregation, inmate discipline, and pre-hearing detention/disciplinary detention (Blakely, 1997).
These and other riots have made a number of lessons clear. First, it is obvious that inmates greatly outnumber staff by large amounts. As can be seen, if in large enough numbers, inmates can overtake a facility at nearly any time they choose to do so. In almost every case, a variety of precipitating factors led up to the violent and disruptive behavior. Disciplinary infractions, especially those of a serious nature, were closer to the breakout of the riots, rather than the first cause for concern. Treatments in the form of inmate programs and activities have been listed as a means of keeping peaceful and orderly relations (Colvin, 1992). In addition, affective and cognitive forms of maladjustment, along with behavioral responses, can typically be found in any of these riots and disruptions.

*Development of the Coping Style Inventory*

Coping instruments based on factor analytic models of stress and coping during the 1980s and 1990s were almost exclusively data-driven and void of any theoretical explanation. Based on limitations of other instruments and lack of theoretically derived measures, Bellah and Milford (1998) developed the Coping Style Inventory based on a theoretical model of stress and coping that proposes to be integrative, parsimonious, and generalizable.

As observed by Lazarus (1981), the ability to speak knowledgeably about coping styles must be preceded by the ability to assess the ongoing processes underlying the characteristic approaches to coping with stress. After reviewing the relevant literature in the area of stress and coping, three coping processes that underlie four basic temperaments or coping styles have been revealed. Specifically, predictability, control,
and support have been identified as central processes that underlie the four basic coping styles described by Galen commonly known as sanguine, choleric, melancholic, and phlegmatic.

*Predictability and Control.* Both predictability and control have been shown to be key in the moderators in the appraisal of stress. Though ambiguity has been shown to increase the level of distress in stressful situations, stress has also been shown to increase when the perceived stressors are unpredictable and uncontrollable (Glass & Singer, 1972; Frankenhauser, 1986). In their investigation of stressful situations, Folkman and Lazarus (1985) found that circumstances perceived as low in both predictability and control often lead to appraisals of threat. Additionally, situations perceived to be low in predictability and high in control are seen as challenging, but situations perceived to be high in predictability and low in control are often described as harm or loss. Eustress (Selye, 1980), which is comprised of situations perceived as both high in predictability and control, are usually made up of situations that the individual views as opportunities for personal growth.

Earlier theorizing regarding the relationship between predictability, control, and stress led to an interest in searching for empirical support in this area. Kelly (1963) stated that an individual’s primary motive in life is the prediction and control of situations in his or her life. The appraisal or interpretation of life events becomes impacted by one’s perceived ability to predict and control everyday circumstances. Kelly also claimed that the psychological readjustment to stress is a coping process.
achieved by the organization of belief systems that interpret the world in a manner that maximizes the perceived ability to predict and control the events of one's life.

Support. The availability of support from others, as well as giving support to oneself, has been shown repeatedly to have a significant impact on coping with life's stressors (Cohen & Wills, 1985; House, 1981; Schaefer, Coyne, & Lazarus, 1981). Research has shown that people who are part of a supportive social network experience lower levels of stress and are better able to cope than individuals with little or no support from others (Pierce, Sarason, & Sarason, 1996). Moreover, lack of social support systems have been found to be correlated with an increase in one's vulnerability to disease and death (Berkman & Syme, 1979). A review of eighty-one studies by Uchino, Cacioppo, & Kiecolt-Glaser (1996) concluded that social support during times of stress helps to lower blood pressure, lessens the secretion of stress hormones, and strengthens immune system responses.

Construct, Criterion, and Convergent Validity of the CSI

The Coping Style Inventory has shown promising results when compared with measures of personality and adjustment. For example, early research linking dispositional coping styles to such constructs as hardiness (Velarde, Donnell, & Peevy, 1998), psychological distress (Bellah & Milford, 1998), depression (Bellah & Milford, 1998), the five-factor model of personality (Bellah, Milford, Velarde, & Peevy, 1998b), the four temperaments (Bellah, Milford, Velarde, & Peevy, 1998a), and social desirability (Bellah, Buboltz, & Velarde, 2000) has led to positive support for the
construct, criterion, and divergent validity of the CSI. However, there remains a need to study coping styles within other applied settings. While there exists a plethora of research in the field of stress and coping regarding the use of social support in coping with stress, there remains a dearth of studies in the literature that examine these issues among inmate populations.

The purpose of the present study is to begin to understand the process of adjustment to incarceration more completely. While stress and coping has received a great deal of attention in the area of psychological research, the knowledge gained through these studies has yet to be applied to a correctional setting. Adjustment has primarily been measured based on institutional misconduct records, virtually ignoring any psychological or emotional variables that may be contributing to one’s current level of adjustment. It is proposed that inclusion of such instruments as the Coping Style Inventory (Bellah and Milford, 1998) to the measurement of institutional adjustment may begin to lead to a more thorough and complete understanding of the factors that lead to varying levels of adjustment to incarceration.

Hypotheses

Introduction to Hypothesis 1

Since the beginning of their inception, prisons have consistently been described as one of the most stressful environments known to humanity. With growing rates of incarceration, a reemergence of interest has developed in the study of prison policy and reform. Researchers continue to focus on ways in which individuals adapt and cope
with the negative and stressful effects of incarceration. In an attempt to begin examining inmate patterns of adaptability to the stressful prison environment, Clemmer (1950) developed a theory regarding a process that he believed inmates undergo, to lesser or greater degrees, upon entering prison. This process, known as prisonization, has been described as the process by which inmates “begin to adopt the folkways, mores, customs, and general culture of the inmate subculture.” This inmate subculture is believed to traditionally unite against the formal organizational structure in an effort to develop a support system of inmate peers. This support system is then hypothesized to assist with the reduction of stress and anxiety.

In previous research investigating the process known as prisonization, two primary models have been proposed in an attempt to explain the factors involved in the development of an inmate subculture. This subculture, as proposed in Clemmer’s (1950) classic thesis, is said to develop as a means of coping with the stressful situation of prison life. According to the deprivation model of inmate adaptation, it is argued that levels of prisonization are influenced by factors related to the depriving nature of the institutional environment itself (Clemmer, 1950; Sykes, 1958; Sykes & Messinger, 1960; Toch, 1977; Thomas & Petersen, 1977; Paterline & Petersen, 1999). According to the importation model of inmate adaptation, levels of prisonization are influenced by factors specific to the personality of the individual entering the prison system, as well as the lifetime experiences of that individual (Irwin & Cressey, 1962; Paterline & Petersen, 1999; Thomas, Petersen, & Zingraff, 1978). Based on studies investigating the predictive power of these two models, researchers have proposed that a structural model integrating the deprivation and importation models into one overall model would serve
to explain more of the variance in levels of prisonization than either model independently (Bumberry & Grisso, 1981; Flanagan, 1981; McCorkle, Miethe, & Drass, 1995; Sorensen, Wrinkle, & Gutierrez, 1998; Thomas, 1977). The present study will attempt to compare the influence of the integrative model, the deprivation model, and the importation model as predictors of prisonization. Additionally, based on Clemmer’s hypothesis that prisonization serves to influence adjustment to incarceration, these models will also be compared as predictors of levels of adjustment in the present sample.

**Hypothesis 1**

It is hypothesized that the integrative model will account for more of the explained variance in inmate levels of prisonization and adjustment than either the deprivation model (operationalized by exogenous variables: time-served ratio, postrelease expectations, and powerlessness) or the importation model (operationalized by Myers-Briggs scales: Extraversion/Introversion, Thinking/Feeling, Sensing/Intuition, and Judging/Perceiving) alone. Inmate adjustment levels will be measured by the Perceived Distress Scale (a global measure of adjustment) and number of disciplinary infractions (a behavioral measure of adjustment).

**Introduction to Hypothesis 2**

The definition of adjustment in corrections has historically stemmed from a custodial point of view, rather than being treatment oriented. Traditionally, adjustment in a prison setting has been defined solely on the basis of behavioral measures. Inmates
who have behaviorally demonstrated that they can follow institutional rules by failing to receive disciplinary infractions have been described as “good inmates.” Whereas, those individuals who receive a larger number of disciplinary infractions, complain about rules and procedures, or who fail to participate in institutional programs are described as “bad or maladjusted inmates” (Megargee & Carbonell, 1985; Panton, 1958, 1962; White, 1981).

With the increasingly popular trend of housing individuals with mental health problems in prisons rather than in inpatient hospitals or sanitariums, disciplinary records alone are may narrow the adequacy of measuring inmate adjustment. One of the strongest criticisms of using criminal justice records of any kind as a measure of adjustment is that they are subject to bias. First, a large amount of deviant behavior may be occurring in the prison setting that is likely hidden from official security and undetected. Second, correctional officials have a vast amount of discretion in the definition and detection of events or acts that culminate in the officer’s recording of a disciplinary infraction. These factors alone served to restrict the range of the number of disciplinary infractions adequately given to individuals who break rules.

For researchers to gain a better understanding of inmate adjustment patterns, other measures that go beyond the mere recording of number of disciplinary infractions are needed. Psychological research in the area of stress and coping (Bellah, 2000) has led to the development of a number of coping measures that may be used for this purpose. It is argued that the addition in the present study of the inclusion of a measure that accounts for self-reported perceptions of varying levels of distress will lead to a
more inclusive and thorough understanding of the actual effect of incarceration on adjustment.

_Hypothesis 2_

It is hypothesized that the integrative model will account for more of the explained variance in adjustment as measured by the Perceived Distress Scale of the CSI than by the number of disciplinary infractions received.

_Introduction to Hypothesis 3_

Most researchers would not argue that a phenomenon like that proposed in the concept of prisonization exists and that individuals differ in the level to which they become prisonized. However, Clemmer (1950) originally hypothesized that prisonization is a process that develops as inmates attempt to adjust to the arduous circumstances of prison life. According to Clemmer, individuals vary in their ability to adjust to the prison environment. The original theory argued that individuals attempt to develop a support network among themselves in opposition to the formal administrative structure. This inmate support system would then assist in lowering levels of maladjustment. The present study is a first step in attempting to test the truth of the claimed relationship of prisonization as a mediator between adaptation variables and levels of adjustment.
Hypothesis 3

It is hypothesized that prisonization will serve as a mediator between exogenous (i.e., deprivation and importation variables) and endogenous variables (i.e., Perceived Distress Scale and disciplinary infractions). Specifically, it is hypothesized that individuals high on prisonization will also have higher numbers of disciplinary infractions. Individuals high on prisonization are also hypothesized to report lower levels of perceived distress.

Introduction to Hypothesis 4

Clemmer (1950) held that nearly all inmates underwent prisonization to a lesser or greater degree and, therefore, considered prisonization to be a “collective” attempt at adjusting to confinement. According to Clemmer (1950, 1958), the longer an inmate’s prison stay, the more removed from conventional society he or she becomes and the stronger the influence of the antisocial prison society. Previous research attempting to test the influence of the amount of time served as a predictor of prisonization has found mixed results. Thomas (1977) found time served to be significantly correlated with the degree of assimilation into the inmate subculture. Thomas’s study suggested that inmates who had served a greater amount of time in prison had developed beliefs consistent with increased levels of prisonization. Wheeler (1961) found an inverted U-shaped prisonization curve in relation to time served. Specifically, when inmates were classified into phases of their institutional careers, there was some evidence of a recovery process and a shedding of the prison culture and beliefs just before parole or release from prison. Finally, Flanagan (1981) found that time served also had an impact...
on the degree of assimilation on the inmate culture. However, this relationship was opposite of Clemmer’s predictions, with inmates who had served longer sentences resulting in lower levels of prisonization. The present study attempts to test Clemmer’s hypothesized relationship of time served with prisonization. Although previous research has not expanded this variable of the deprivation model to overall adjustment levels, the relationship between time served and levels of adjustment will also be investigating in the current study.

**Hypothesis 4**

It is hypothesized that the ratio of time served to total sentence length will have a positive relationship with levels of prisonization and adjustment (i.e., Perceived Distress Scale of Coping Style Inventory and disciplinary infractions, as recorded by the Bureau of Prisons).

**Introduction to Hypothesis 5**

The debate over the deprivation and importation models of inmate adaptation as predictors of prisonization sparked a number of useful studies and has led to a better overall understanding of the prisonization process. Thomas (1973) suggested that, in addition to preprison experiences and factors inclusive under the deprivation model, one’s expectations about their future upon release from prison also served to predict levels of prisonization, with more pessimistic attitudes being associated with higher levels of prisonization. In addition to postrelease expectations, feelings of alienation or powerlessness have also been shown to influence levels of prisonization, with inmates
high in feelings of powerlessness scoring high on prisonization levels (Paterline & Petersen, 1999; Thomas & Zingraff, 1976). The present study attempts to mirror previous research, hypothesizing that pessimistic attitudes toward beliefs about one's release and feelings of overall powerlessness will result in higher levels of prisonization. Furthermore, the relationship between postrelease expectations, powerlessness, and levels of adjustment will be examined in the present study.

Hypothesis 5

It is hypothesized that inmates who score high on powerlessness and high on postrelease expectations scales (pessimistic) will result in higher levels of prisonization and poorer adjustment levels (i.e., Perceived Distress Scale and disciplinary infractions). Specifically, it is hypothesized that individuals who score high on Powerlessness and high on Postrelease Expectations will be positively associated with disciplinary infractions and with Perceived Distress.

Introduction to Hypothesis 6

In addition to the lack of research applying the importation and deprivation models to overall adjustment, researchers have failed to include variables measuring the second half of the importation model in their studies. The importation model can be thought of as twofold. Prisonization is influenced by (1) dispositional personality characteristics of the individual, and (2) pre-prison experiences that have influenced the individual. However, with the exception of one known study examining the possible influence of individual self-concept on levels of prisonization (Paterline & Petersen,
1999), the importation model has primarily included variables that measure pre-prison experiences, rather than personality factors (Sorensen, Wrinkle, & Gutierrez, 1998; Thomas, 1977). A necessity has arisen to unite the fields of corrections and psychology in order to lead to a greater understanding of the personality factors that may contribute to one’s ability to adjust to prison life. The present study proposes to include true measures of personality in an effort to represent the second half of the importation model.

Using the Myers-Briggs Type Indicator, researchers have begun to investigate the personality types of individuals in prison settings (Gibb, 1989; Linton & Whitehead, 1981, Lippin, 1990; Livemoise, 1987; Long, Lenoir, & Witherspoon, 1995; Luzander, 1984). This research has consistently found an overrepresentation of I, S, T, and J types and an underrepresentation of E, N, F, and P types compared to the overall population. Additionally, Bridges’s (1992) work on types of organizations can help to examine institutional adjustment by attempting to match the characteristics of the person to the characteristics of the environment. Therefore, based on the assumption that individuals who are a good match to the environment should be less maladjusted, it is hypothesized that I, S, T, and J types will score significantly better on adjustment measures than E, N, F, and P types.

**Hypothesis 6**

It is hypothesized that individuals with I, S, T, or J types will score significantly better on adjustment measures than E, F, N, or P types respectively because these
formal psychological type preferences appear to complement the I, S, T, J,
psychological types characteristics of the modern institutional environment.
CHAPTER 2

Method

Participants

A sample of incarcerated inmates (approximate $N = 400$) from four separate federal institutions were randomly selected from the Bureau of Prisons computer database system and asked to participate in this study. These four institutions were chosen in order to investigate any possible differences among inmates incarcerated in institutions of varying degrees of security. The present study included inmates from institutions of the following security levels: minimum security, low security, medium security, and medical center (varying security inmates). No significant differences were found between individuals from the four different institutions and other model variables. Participants from all institutions were pooled for future analyses. The sample was comprised of all males because female inmates were not available for study at these institutions. Of the 400 inmates originally sampled, 268 chose to complete the research surveys. Of the 268 completed surveys, 242 met criteria for inclusion in data analyses (See Identification of Hybrid Model section of Chapter 3).

The mean age was 36.12 and ages ranged from 21 to 65 ($SD = 10.13$). The racial composition among the 242 subjects was as follows: 66 Caucasian (27.3%), 150 African-American (62.0%), 16 Hispanic (6.0%), and 10 Native-American (4.1%). The
following breakdown of participants from each institution were the following: 26 participants from Federal Medical Center (10.7%), 23 participants from a minimum-security institution (9.5%), 89 participants from a low-security institution (36.8%), and 104 participants from a medium-security institution (43.0%). Any inmates with active psychosis, severe depression, or who have been found “Not Guilty by Reason of Insanity” or “Incompetent to Stand Trial” were excluded from the present study.

Although reading level is not a variable collected by the Bureau of Prisons, information regarding each individual’s educational status was provided. Specifically, the following breakdown in educational status was found: 178 participants (73.6%) had achieved at least their GED or high school diploma, 54 participants (22.3%) were enrolled in GED classes while incarcerated, 6 participants (2.5%) were enrolled in GED classes but at some point were dropped from enrollment, and 4 participants (1.7%) were exempt from GED classes. This information is maintained and was provided from the Bureau of Prisons (BOP) database system. The various types of crimes committed by the research participants were categorized as following: 24 categorized as Sex Offense Non-Violent (9.9%), 18 categorized as Sex Offense Violent (7.4%), 10 categorized as Bank Robbery Non-Violent (4.1 %), 6 categorized as Bank Robbery Violent (2.5%), 135 categorized as Drug Offense Non-Violent (55.8%), 16 categorized as Drug Offense Violent (6.6%), 19 categorized as Other Non-Violent (7.9%), and 14 categorized as Other Violent (5.8%).
Procedures

After random sampling, subjects were asked to participate voluntarily in a study examining the factors that contribute to an inmate's ability to adequately adjust to incarceration. See Appendix A and B for institutional review board approval letters. See Appendix C for Human Subjects Consent form. Those consenting to participate each confidentially completed the Coping Style Inventory (CSI) (Perceived Distress Scale), the Myers-Briggs Type Indicator (MBTI, Form M) (Extroversion-Introversion, Sensing-Intuition, Thinking-Feeling, and Judging-Perceiving scales) and three subscales from the Organizational Structure and Prisonization Scale (Powerlessness scale, Postrelease Expectations scale, and Prisonization scale). The researcher conducted all surveys throughout the study at all study sites. Subjects were instructed to answer all items in terms of life in prison, rather than to their life before incarceration. All demographic information was gathered using the BOP's nationwide database system. After a brief introduction to the study, inmates were provided the opportunity to sign a consent form giving their permission to serve as subjects in the present study. Inmates were informed that they would not be penalized in any way if they chose not to participate. Subjects were informed that they could choose to discontinue their participation at any time throughout the study. All personal and identifying information was coded in to ensure anonymity of the subjects.
**Instrumentation**

*Myers-Briggs Type Indicator*

The Myers-Briggs Type Indicator – Form M (MBTI; Myers & McCaulley, 1998) was used in the present study. The MBTI is a Jungian-based inventory that uses a paper-and-pencil self-report format. It is composed of 93 forced-choice items that constitute the four bipolar scales, which are implied in Jung’s theory known as Extraversion-Introversion (E-I), Sensation-Intuition (S-N), Thinking-Feeling (T-F), and Judging-Perceiving (J-P). Respondents can be classified into one of 16 personality types based on the largest score obtained for each bipolar scale (MacDonald, Anderson, Tsagarakis, & Holland, 1994). In line with previous research (Carlyn, 1977; Levy, Murphy, & Carlson, 1972), dichotomous constructs will be measured as continuous theta scores. Although it is possible to combine the preferences of the four scales into 16 possible types, each scale was examined separately in the present study to describe more clearly those processes that most seem to influence an individual’s ability to adequately adjust to incarceration. A breakdown of each of the 16 whole types is presented in Table 1.
Table 1

**MBTI Whole Type Table**

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<td>1.7%</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

The MBTI has been revised numerous times since 1942, continuing to the present revision and publication of Form M in 1998. Improvements to the development of the MBTI have occurred in the following areas: language of the items, number of items, item format, item weights and scoring method, gender differences, score tie-breaking method, location of division points, and composition of the standardization group. When constructing Form M, a thorough review of all of the items contained in Form J was performed to identify those items with outdated or awkward language. Form J was chosen because it contained all the items that had ever been considered in...
testing by Myers. The number of items since the last form, Form G, also changed from 94 items to 93 items. Originally, all MBTI items were phrase questions, followed by a choice of two or more responses. Form M contains both phrase questions and word pairs as items. Additionally, items were chosen, weighted, and scored using item response theory (IRT) to score for type. As with previous items, hand-scoring options are available, however, IRT theta scores can be computed using computer scored versions of the current form. Research conducted for the revision suggested that IRT provided a more precise indication of preference, particularly around the midpoint of the scale, than the previously used prediction ratio method. Finally, significant differential responses by gender were eliminated from the item pool, making separate scoring methods unnecessary across gender. It should be noted that the level of agreement between Form G and Form M on whole types is actually higher, and in some cases quite a bit higher, than is observed between two administrations of Form G in 10 of the 11 studies reported in the 1985 MBTI Manual (Myers, & McCaulley, 1985; Myers, McCaulley, Quenk, & Hammer, 1998).

The MBTI has been the focus of extensive research and substantial evidence has suggested that the inventory has satisfactory validity and reliability (Carlson, 1985; Carlyn, 1977; Mitchell, 1993; Myers & McCaulley, 1998). For Form M, the internal consistency of the four MBTI scales is high in all samples available to date. Using a logical split-half procedure, the X half had the following reliability scores for the four scales: (1) $r = .90$ for the E-I scale, (2) $r = .92$ for the S-N scale, (3) $r = .91$ for the T-F scale, and (4) $r = .92$ for the J-P scale. The Y half had the following reliability scores for the four scales: (1) $r = .91$ for the E-I scale, (2) $r = .92$ for the S-N scale, (3) $r = .90$.
for the T-F scale, and (4) \( r = .92 \) for the J-P scale. Using a consecutive split-half procedure, the X half had the following reliability scores for the four scales: (1) \( r = .91 \) for the E-I scale, (2) \( r = .92 \) for the S-N scale, (3) \( r = .89 \) for the T-F scale, and (4) \( r = .92 \) for the J-P scale. The Y half had the following reliability scores for the four scales: (1) \( r = .90 \) for the E-I scale, (2) \( r = .92 \) for the S-N scale, (3) \( r = .92 \) for the T-F scale, and (4) \( r = .92 \) for the J-P scale. Moreover, internal consistency measures were calculated for the word pairs and phrases separately. The following reliability coefficients were computed for each, respectively: (1) \( r = .91 \), (2) \( r = .93 \), (3) \( r = .92 \), and (4) \( r = .94 \), \( r = .93 \) for the J-P scale (Myers, McCaulley, Quenk, & Hammer, 1998).

Test-retest reliability is an estimate of how stable a characteristic is over time (Cronbach, 1951). Test-retest product-moment correlations in three different samples for Form M ranged from \( r = .83 \) to \( r = .97 \) for the four scales using continuous scores. In addition, test-retest reliabilities for Form M have generally been higher than those of Form G. When subjects reported a change in type, it was most likely to occur in only one preference, and in scales where the original clarity preference was low. Finally, the reliability coefficient for T-F remained the lowest of the four scales, as was expected (Myers, McCaulley, Quenk, & Hammer, 1998).

The factor structure of the MBTI item pools provides evidence of the construct validity of the instrument. To test the hypothesized four factor structure found in previous versions of the instrument, a confirmatory factor analysis was conducted on Form M, using data from a national sample studied \((N = 3,306)\). The adjusted goodness-of-fit was .949 and the nonnormed fit index was .967. The median of the fitted residuals...
was \(-.008\). Results indicate good fit to the hypothesized four-factor model (Myers, McCaulley, Quenk, & Hammer, 1998). Several confirmatory studies of both Form G and Form M have unanimously supported that validity of the hypothesized factor structure. One case conclusively rejected the competing models proposed by Sipps, Alexander, and Friedt (1985) and Comrey (1983).

Correlations of the four preference scales with a wide variety of scales form other instruments appear to support the predictions of type theory regarding the meaning of, and the behaviors believed to be associated with, the four dichotomies. Instruments listed in the Manual (1998) that have been compared to the MBTI include, but are not limited to, the 16 Personality Factors Questionnaire (16PF), Millon Index of Personality Styles, NEO-PI, Jungian Type Survey, California Psychological Inventory, Strong Interest Inventory, Skills Confidence Inventory, and the Career Factors Inventory. In addition, evidence presented in the manual on type distributions, attraction and satisfaction in couples, reactions to stress, and factor scores derived from other measures suggests that some characteristics of whole types are not predictable from knowledge of the individual preferences alone (Myers, McCaulley, Quenk, & Hammer, 1998). Overall, strong support for the reliability and validity of the MBTI as a whole and for the current Form M has been demonstrated.

**Powerlessness**

Measures of alienation and powerlessness have previously been used in research examining the influence and predictive power of the deprivation model of adaptation. Powerlessness in this study was measured using eleven items from the Organizational
Structure and Prisonization Scale (OSPS) developed by Thomas and Zingraff (1976). Two scales of the OSPS, the General Powerlessness and the Organizational Powerlessness scales, was combined into one factor to make up the total Powerlessness score in the present study. The General Powerlessness scale is a revision of a scale designed by Neal and Rettig (1967). After examining the total pool of items administered to 267 boys institutionalized at a school for juvenile delinquents, only those items which showed an item-to-total correlation of .35 or greater were retained by Thomas and Zingraff (1976). All items are presented in a standard 5-point Likert-type format (strongly agree, agree, neutral, disagree, and strongly disagree). The higher the Powerlessness score, the stronger the feeling of powerlessness to control one's surroundings and situations. Using the General Powerlessness scale, the mean from the original sample was measured at 21.35, with a standard deviation of 4.23. The mean from the original sample for the Organizational Powerlessness scale was 13.47, with a standard deviation of 4.03. When scored separately in the present sample, the Pearson product moment correlation was measured at $r = .431$, $p < .01$, indicating support for the decision to combine these two scales in the present sample.

Little information was found regarding the reliability and validity of these scales, as well as the Organizational Structure and Prisonization Scale instrument as a whole. However, this instrument was chosen for use in this study due to the relatively few published instruments developed to measure the constructs of Prisonization, Powerlessness, and Postrelease expectations directly applied to a prison setting. In a study by Thomas and Zingraff (1976), moderate associations were found between both measures of Powerlessness and Prisonization (gamma = .285 and .426). In that study,
Organizational Powerlessness appeared to be a better predictor of Prisonization than the General Powerless scale. However, no studies to date have attempted to measure their combined effects on either prisonization or adjustment. Paterline and Petersen (1999) also found a positive relationship between contextual (Organizational) powerlessness and prisonization ($r = .360$). They did not include the General Powerlessness in their study. See Appendix D for items, reliability, and factor loadings of Powerlessness Scale.

**Postrelease Expectations**

Prisonization has been shown to be typically high among inmates who maintain a low expectation of their postrelease life chances (Thomas, Petersen, & Zingraff, 1978). Postrelease expectations can indicate an inmate's perceptions as to whether or not imprisonment is viewed as so destructive that reintegration into family, social, and occupational roles appear unlikely (Paterline & Petersen, 1999). Postrelease expectations in this study was measured using eleven items from the Organizational Structure and Prisonization Scale (OSPS) developed by Thomas and Zingraff (1976). Items are scored using a standard 5-point Likert-type format. The higher the Postrelease Expectations score, the more pessimistic one feels about his possibilities after release. The mean from the original sample was measured at 22.51, with a standard deviation of 7.41. It should be noted that postrelease expectations have previously been included as a measure of the importation model, as well as the deprivation model. After careful analysis of the item content, this scale was used as a measure of the deprivation model.
in the current study. Paterline and Petersen (1999) also included postrelease expectations as a deprivation variable.

As mentioned above, little information was found regarding the reliability and validity of this scale. Paterline and Petersen (1999) found a significant negative relationship between Postrelease Expectations and Prisonization \( (r = -.352) \). In a regression analysis, those inmates who had lower Postrelease Expectations also had higher rates of Prisonization \( (\beta = -.127) \). Zingraff (1975) also found support for this scale. Multivariate analysis indicated that Postrelease Expectations were directly related to the degree of Prisonization as well as the consequences of that process (i.e., disciplinary write-ups, time in segregation, etc.). See Appendix D for items, reliability, and factor loading of Postrelease Expectations scale.

*Time Served/Sentence Length*

The length of time an individual has been confined has generally, but inconsistently, been linked with the degree of assimilation into the inmate subculture and to adjustment levels. A ratio of the amount of time already served divided by the length of the sentence given was used as an exogenous variable measuring the influence of the deprivation model of inmate adaptation on levels of adjustment.

*Prisonization*

Prisonization is generally described as the process of accepting the normative structure of the inmate social system (Thomas & Zingraff, 1976). The current measure of prisonization was measured using eight items from the Organizational Structure and
Prisonization Scale (OSPS) developed by Thomas and Zingraff (1976). Items are scored using a standard 5-point Likert-type format. The higher the Prisonization score, the more one has theoretically become assimilated into the inmate counterculture. The mean from the original sample was measured at 27.06, with a standard deviation of 5.65. Prisonization is hypothesized to serve as a mediator variable between importation/deprivation model variables and levels of adjustment.

Once again, relatively little reliability or validity information was available for this scale. The major support for the validity comes from the consistency of the data with predictions made from the theoretical concepts. Significant inverse relationships between SES of origin and the Prisonization scale, SES of attainment and the Prisonization scale, and age and the Prisonization scale have been found. These findings support the hypothesis made by the importation model that internalized socialization prior to incarceration would hinder adoption of the inmate subculture. Paterline and Petersen (1999) also used this Prisonization scale as a dependent variable in their study. They found significant relationships between variables representing both the deprivation and importation models as predictors of Prisonization. See Appendix D for items and reliability of Prisonization Scale.

**Disciplinary Infractions**

The number of disciplinary infractions has been a common measure for the level of one's adjustment to incarceration, with more infractions equaling maladjustment (Panton, 1958, 1979a, 1979b; Watron, 1963). It is argued that this behavioral measure of adjustment is too narrow in scope to adequately measure one's adjustment to
incarceration. The number of institutional infractions over the previous year of incarceration was obtained for each participant. Additionally, the total number of infractions for the total time served was collected. Disciplinary infractions served as an endogenous variable, or a measure of adjustment, and was compared to more inclusive measures of inmate adjustment levels.

Coping Style Inventory/Perceived Distress Scale

The Coping Style Inventory is a 40-item instrument measuring Coping Competence (CC). Exploratory and confirmatory factor analyses of separate samples from a normal population lend support to the theorized structural model of the CSI (Bellah & Milford, 1998; Bellah, 2000). Results of these analyses indicate the data best fit a structural model specified with six primary factors (i.e. self-confidence, self-control, self-support, other-confidence, other-control, and other-support) comprising two second-order domains of Personal Coping Competence (PC) and Interpersonal Coping Competence (IC). The theoretical model specifies that PC is a linear combination of the three indices of intrapersonal coping scales (self-confidence, self-control, self-support), and IC is specified to represent a linear combination of the three indices of interpersonal coping processes (other-confidence, other-control, other-support). It is theorized that individual differences among scaled scores reflect features of coping styles, or characteristic approaches to coping with stress (Bellah, 2000). The overall reliability of the CSI is measured at $r_\alpha = .90$, with PC having a reliability of $r_\alpha = .85$ and IC having a reliability of $r_\alpha = .88$. Reliabilities of the subscales ranged from $r_\alpha = .79$ to $r_\alpha = .84$, indicating at least a moderately high degree of internal consistency.
among measures (Lord & Novick, 1968). Reliability estimates and standard errors of measurement, respectively, for the six scales were as follows: self-confidence ($r_\alpha = .83; 1.99$), self-control ($r_\alpha = .79; 1.70$), self-support ($r_\alpha = .81; 1.26$), other-confidence ($r_\alpha = .84; 1.96$), other-control ($r_\alpha = .82; 1.75$), and other-support ($r_\alpha = .83; 2.06$) (Bellah, 2000). Although the CSI was originally standardized on a normal sample, construct validity studies performed using the CSI in a correctional setting have shown positive results (Bellah, Velarde, & Buboltz, 2000).

Recent revisions to the CSI have included a 10-item Perceived Distress Scale, which served as the primary measure of adjustment in the current study (G. Milford, personal communication, March 5, 2001). The Perceived Distress Scale (PDS) score indicates the magnitude of perceived stressors currently operating in an individual’s life. The higher the PDS score, the greater the perceived demands or stressors. The lower the PDS score, the less the perceived distress an individual feels. Following in the tradition of “learned helplessness” (Seligman, 1994), the distress scale includes items to identify perceived permanence and pervasiveness of demands or stressors that individuals personally attribute to limitations in their own coping efforts. The distressing demands are viewed as permanent because they are expected to endure or last for an indefinite period. Demands are seen as pervasive because they are expected to extend or reach across all life situations. Seligman (1994) posits that demands are personalized because individuals identify themselves as causal factors of the perceived stressors. Moreover, the individual often claims responsibility for the distress resulting from faulty or inadequate coping efforts. People often formulate reasons or explanations about their failures to cope competently. The explanations are often “personalized,” “permanent,”
and "pervasive." These explanations also serve to determine what people may expect about their future coping efforts. If they claim to fail in a permanent and pervasive way, then they often expect to make the same mistakes in the future in many areas of their life.

The higher the magnitude of perceived distress that people report, the greater the chances they will indicate increasing difficulty in coping efficiently and effectively (Bellah & Milford, 1998). Preliminary research indicates that perceived distress scores are inversely associated with the six clinical scales of the CSI. When any clinical or composite scaled score is equal to or greater than the Perceived Distress Scale score, then individuals are likely to report satisfactory coping competence. However, when a Perceived Distress Scale score exceeds any clinical or composite scaled score, then individuals are likely to report impairment in coping competence. The more the Perceived Distress Scale score exceeds a clinical or composite scaled score, the greater the anticipated impairment in coping competence. See Appendix E for items and Cronbach's alpha score of Perceived Distress Scale of the CSI.
CHAPTER 3

Results

The following chapter presents the outcome of data analyses and hypothesis testing. Descriptive statistics of the sample, including scale means, standard deviations, observed reliabilities, and correlations are presented. Secondly, an overview of relevant structural equation modeling techniques is discussed, followed by specification and identification of the proposed theoretical model. Finally, procedures for estimating the goodness of fit, goodness of relative fit, and parsimony of the hybrid model are discussed, including tabulation and cross-comparison of model fit indices.

Descriptive Statistics of Sample

Descriptive statistics, including means, standard deviations, and reliabilities are presented in Table 2. Descriptive statistics by type of institution are presented in Table 3.
Table 2

*Scale Means, Standard Deviations, and Reliabilities*

<table>
<thead>
<tr>
<th>Scale</th>
<th>M</th>
<th>SD</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of Time Served</td>
<td>00.18</td>
<td>0.19</td>
<td>N/A</td>
</tr>
<tr>
<td>Powerlessness</td>
<td>31.68</td>
<td>6.75</td>
<td>.72</td>
</tr>
<tr>
<td>Post Release Expectations</td>
<td>24.81</td>
<td>5.57</td>
<td>.70</td>
</tr>
<tr>
<td>Extraversion/Introversion</td>
<td>08.34</td>
<td>4.93</td>
<td>.84</td>
</tr>
<tr>
<td>Sensing/Intuitive</td>
<td>15.74</td>
<td>4.74</td>
<td>.78</td>
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<td>12.16</td>
<td>5.22</td>
<td>.83</td>
</tr>
<tr>
<td>Feeling</td>
<td>11.84</td>
<td>5.21</td>
<td>-</td>
</tr>
<tr>
<td>Judging/Perceiving</td>
<td>13.89</td>
<td>5.54</td>
<td>.89</td>
</tr>
<tr>
<td>Perceived Distress</td>
<td>28.74</td>
<td>8.48</td>
<td>.89</td>
</tr>
<tr>
<td>Prisonization</td>
<td>25.00</td>
<td>4.41</td>
<td>.57</td>
</tr>
<tr>
<td>Disciplinary Infractions (Total)</td>
<td>01.30</td>
<td>2.09</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Note.* N/A = Not Applicable
### Table 3

**Means, Standard Deviations, and Mean Differences by Type of Institution**

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<th></th>
<th>Camp</th>
<th>Medical Center</th>
<th>Low</th>
<th>Medium</th>
<th>F</th>
<th>Signif. Level</th>
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<td></td>
<td>N = 23</td>
<td>N = 26</td>
<td>N = 89</td>
<td>N = 104</td>
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<tr>
<td>Age</td>
<td>M = 43.17</td>
<td>M = 31.35</td>
<td>M = 36.36</td>
<td>M = 35.56</td>
<td>6.14</td>
<td>.001</td>
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<tr>
<td></td>
<td>SD = 11.92</td>
<td>SD = 6.05</td>
<td>SD = 10.14</td>
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<td>Disciplinary Infractions</td>
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<td>M = 1.38</td>
<td>M = 1.31</td>
<td>M = 1.43</td>
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<td>.349</td>
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<tr>
<td></td>
<td>SD = 1.04</td>
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<td>SD = 1.95</td>
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<tr>
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<td>M = 7.62</td>
<td>M = 9.11</td>
<td>M = 7.99</td>
<td>1.23</td>
<td>.299</td>
</tr>
<tr>
<td></td>
<td>SD = 5.24</td>
<td>SD = 5.56</td>
<td>SD = 4.68</td>
<td>SD = 4.88</td>
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<tr>
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<td>M = 13.01</td>
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<tr>
<td></td>
<td>SD = 5.24</td>
<td>SD = 5.56</td>
<td>SD = 4.70</td>
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<td>.929</td>
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<td>M = 10.38</td>
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<td>SD = 5.45</td>
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<td>.349</td>
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<td></td>
<td>SD = 5.55</td>
<td>SD = 5.01</td>
<td>SD = 4.67</td>
<td>SD = 5.60</td>
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<td>M = 12.51</td>
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<tr>
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Table 3 Continued

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<td>M = 8.79</td>
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<td>3.93</td>
<td>.009</td>
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<td>M = 12.22</td>
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<td>8.03</td>
<td>.001</td>
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<td>Powerlessness</td>
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<td>M = 25.07</td>
<td>M = 25.07</td>
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<td>.403</td>
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<td>M = 25.69</td>
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<td>.009</td>
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<td>Time Served</td>
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<td>M = -1.96</td>
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<td>SD = 1.21</td>
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</table>
Overall, scale means for the manifest variables of importation indicate the typical or modal inmate for the current sample is an ISTJ personality type. Standard deviations for these scales ranged from $SD = 4.74$ (Sensing) to $SD = 5.55$ (Perceiving). Scale means for the manifest variables of deprivation indicate the average inmate in the present sample has served 18.14% of his sentence at the current institution ($SD = 19.00\%$), has relatively pessimistic expectations about life after incarceration compared to a normative sample (dev. score = 2.30), and has above average scores in feelings of powerlessness (Thomas & Zingraff, 1974). Moreover, highlights of Table 2 include findings that the average inmate has had a total of 1.30 disciplinary infractions during his incarceration ($SD = 2.09$), is relatively low in Prisonization (Thomas & Zingraff, 1974), and scores a 28.74 of a possible 60.0 in Perceived Distress. Observed reliabilities as estimated by Cronbach’s (1951) alpha for the scales above were the following: Extraversion/Introversion ($r_\alpha = .84$), Sensing/Intuitive ($r_\alpha = .78$), Thinking/Feeling ($r_\alpha = .83$), Judging/Perceiving ($r_\alpha = .89$), Powerlessness ($r_\alpha = .72$), Post Release Expectations ($r_\alpha = .70$), Prisonization ($r_\alpha = .57$), and Perceived Distress ($r_\alpha = .89$).

After descriptive statistics were calculated for all variables for the entire combined sample, each variable was reanalyzed by each type of institution. Table 3 presents the means, standard deviations, and mean difference levels by type of institution. Overall, the following four of eleven analyzed variables were found to have significant differences among institution type: (1) age by institution type ($F = 6.141, p = .001$), (2) powerlessness by institution type ($F = 3.932, p = .009$), (3) prisonization by institution type ($F = 3.946, p = .009$), and (4) time served by institution type ($F = 9.697, p = .001$). No significant differences were found among all other variables.
Furthermore, powerlessness was divided into the original two scales, General Powerlessness and Organizational Powerlessness, developed by Thomas and Zingraff (1976) and compared by type of institution. Organizational powerlessness was found to have significant differences by type of institution \( (F = 8.028, p = .001) \). No significant differences were found with the General Powerlessness scale. Post hoc analyses using Scheffe’s test of multiple comparisons indicated that group 1 (Camp) was significantly different from group 4 (Medium security) in regards to age, with mean age levels at the Camp significantly higher. Moreover, group 2 (Hospital setting) was found to be significantly different from group 4 (Medium security) on both feelings of overall powerlessness and prisonization levels, with individuals at the hospital setting scoring higher on both variables. It should be noted, however, that no significant differences were found by institution type on levels of prisonization when using Scheffe’s test and differences were interpreted using Tukey’s Honestly Significant Difference (HSD) test. Scheffe’s test is generally considered to be one of the more conservative post hoc tests, with Tukey’s HSD cited as ranking second (Howell, 1992). Using Scheffe’s test, all groups were found to significantly differ on amount of time served in the expected directions based on security level. Finally, group 3 and group 4 (Low and Medium security, respectively) were significantly different from group 1 and group 2 (Camp and Hospital settings, respectively), with individuals at higher security institutions scoring lower on feelings of organizational powerlessness. See Table 4 for Pearson product moment estimates of correlation coefficients for each of the variables included in the final analyses.
Table 4

*Scale Inter-Correlations*

<table>
<thead>
<tr>
<th></th>
<th>Time</th>
<th>Power</th>
<th>P.R.E.</th>
<th>E</th>
<th>S</th>
<th>T</th>
<th>J</th>
<th>Distress</th>
<th>Prison</th>
<th>Dis Infrac</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Power</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P.R.E.</td>
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<td>.350</td>
<td>1.00</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
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<td>-.184</td>
<td>-.189</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>-.060</td>
<td>.042</td>
<td>-.128</td>
<td>-.057</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>.034</td>
<td>.005</td>
<td>-.080</td>
<td>-.092</td>
<td>.156</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J</td>
<td>.006</td>
<td>-.233</td>
<td>-.211</td>
<td>.027</td>
<td>.281</td>
<td>.216</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distress</td>
<td>-.045</td>
<td>.299</td>
<td>.440</td>
<td>-.222</td>
<td>-.083</td>
<td>-.194</td>
<td>-.182</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prison</td>
<td>-.084</td>
<td>.455</td>
<td>.190</td>
<td>-.148</td>
<td>.052</td>
<td>.227</td>
<td>-.203</td>
<td>.083</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dis Infrac</td>
<td>-.011</td>
<td>.055</td>
<td>-.094</td>
<td>.075</td>
<td>.139</td>
<td>-.028</td>
<td>-.046</td>
<td>.075</td>
<td>.154</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td>-.092</td>
<td>-.079</td>
<td>.024</td>
<td>.090</td>
<td>-.026</td>
<td>.003</td>
<td>.134</td>
<td>-.038</td>
<td>-.165</td>
</tr>
</tbody>
</table>

*Note.* *bold face depicts* $p < .05$; Time = Time Served; Power = Powerlessness Scale; P.R.E. = Postrelease Expectations Scale; E = Extraversion/Introversion Scale; S = Sensing/Intuition Scale; T = Thinking/Feeling Scale; J = Judging/Perceiving Scale; Distress = Perceived Distress Scale; Prison = Prisonization Scale; Dis Infrac = Disciplinary Infractions
Results indicate that 24 of the 55 pairings had statistically significant bivariate correlations ranging from $r = .455, p < .05$ (Powerlessness-Prisonization) to $r = .005, p < .05$ (Powerlessness-Thinking). It is noteworthy that the proportion of an inmate’s sentence served at the current institution was not significantly associated with any of the other variables in the analyses, possibly due to unknown sources of error variance that may result in a restriction in range for the present sample. Based on this finding, the log linear transformation of time served was calculated and compared in future analyses. Although age is not a variable included in the structural model, it was included in the correlation matrix for comparison. Results indicate that age was significantly correlated with prisonization and disciplinary infractions, suggesting that younger inmates received higher levels of disciplinary infractions and reported higher levels of prisonization in the present sample.

*Structural Equation Modeling*

Structural equation modeling (SEM) refers to an assortment of statistical techniques appropriate for use in both experimental and correlational research designs, including observed and latent variables, exploratory and confirmatory analyses, and with both metric and non-metric data. A cornerstone of SEM is its capability of simultaneously examining the inter-relationships among multiple independent, dependent, and moderator/mediator variables and even between multiple groups or samples of data. Given SEM’s versatility and a rising popularity among many fields of study, some of the more prominent sources of supporting software have imbued a profusion of related terms for some of the more standard applications of SEM including
Thus, an overabundance of terminology and procedural schemes have infused the literature in recent years, resulting in many researchers necessarily resorting to a perfunctory empiricism in place of theory-driven methodology (Hair et al., 1994; Tabachnick & Fidell, 1996). This phenomenon is perhaps nowhere more evident than in contemporary literature of correctional psychology. Therefore, data analyses of the current study proceeded with a three-stage process of theory-testing as prescribed by Kline (1998): (1) model specification, (2) model identification, and (3) model estimation. First, in the specification phase of data analysis, the endogenous and exogenous paths depicting hypothesized relationships among latent and observed factors are determined for both the measurement and structural models. Second, model identification procedures involve testing the model characteristics for concordance with the multivariate assumptions of SEM, including multivariate normality and the ability to obtain a unique estimate of each model parameter (Kline, 1998). Finally, model estimation was performed using maximum likelihood estimation of model parameters and testing these parameters for convergence between predicted and observed covariance matrices using several conventional fit indices.

**Specification of the Hybrid Model**

The theoretically hypothesized data structure under investigation signifies the specification of a "hybrid" model, which is denoted by the intersection of a "measurement" model (i.e. factor model) and a "structural" model (i.e. path model).
Therefore, the specified hybrid model consists of the intersection of a specified measurement model and a specified structural model. Given a hierarchical structure of the data, the measurement model may be specified as consisting of two associated latent factors labeled “deprivation” and “importation,” which are both exogenous to their respective manifest variables. The specified endogenous indicators of the latent factor “deprivation” include (1) proportion of sentence served, (2) Powerlessness, and (3) Postrelease Expectations. In addition, the manifest indicators of the latent factor labeled “importation” include (1) Extraversion/Introversion, (2) Sensing/Intuition, (3) Thinking/Feeling, and 4) Judging/Perceiving. Regarding the structural half of the hybrid model, it is specified that each of the seven manifest variables serve as exogenous causal indicators of adjustment as measured by disciplinary infractions and the self-report of perceived distress. It is further specified that the endogenous observed variable “Prisonization” serve as a mediator between the two adjustment measures and the manifest indicators of the latent factors. Therefore, the hybrid, or “integrative” model consists of the intersection of a measurement model and a structural model comprising a total of two associated exogenous latent factors, seven endogenous manifest variables, and three endogenous observed variables consisting of one mediator and two criterions.

Identification of the Hybrid Model

The identification of a hybrid model necessitates a series of steps in the fulfillment of a number of multivariate assumptions akin to the procedures of data screening that play an integral part of data analysis using any conventional dependence technique based on probability theory and the general linear model (Hair et al., 1995;
Thus, a first step in model identification is the examination of multivariate normality in the current sample. Results of analyses indicated the observed multivariate kurtosis \((z = 16.47)\) far exceeded the critical value of \(z = 2.58, p < .01\), signifying a leptokurtic condition that is in violation of the assumption of multivariate normality. Therefore, examination of multivariate outliers was prescribed in efforts to identify any observations that exceed critical values in squared Euclidian distance from the multivariate centroid. Results of analyses indicated the presence of 26 offending observations as estimated by Mahalanobis \(D^2\) \((p < .01)\). After elimination of these data points, subsequent tests of multivariate normality were satisfactory for the truncated sample \((N = 242; \text{Multivariate Kurtosis} = 3.66, \text{n.s.})\).

The next step in identification of the hybrid model involved determining if the number of specified free parameters is less than or equal to the number of specified observations. This is a necessary condition in order for each parameter in the model to have a unique estimate (Kline, 1998). The number of observations is calculated by the formula:

\[
v(v + 1)/2
\]

where \(v\) represents the number of observed variables. Therefore, the dividend is denoted by the product of the number of variables comprising the rows of the covariance matrix and the combination of the diagonal with the number of variables in the columns of the covariance matrix. Dividing this product by half thereby solves for the exact number of non-duplicated bivariate associations in the covariance matrix that serve as observations in the measurement and structural models. In the current sample, the seven endogenous manifest variables in the measurement model combine with the three endogenous
observed variables in the structural model to make a total of 10 observed variables in the hybrid model and 55 distinct sample moments \((10(10 + 1)/2 = 55\). Furthermore, the number of parameters to be estimated in the current hybrid model is calculated by totaling the number of parameters in the measurement model and the number of parameters in the structural model. The total number of parameters in the measurement model equals the number of variances and covariances of the latent factors, their measurement errors, and all factor loadings. Likewise, the number of parameters in the structural model equals the number of variances of the observed endogenous variables and the number of specified directional regression paths. Examination of the hybrid model reveals that the measurement model has been specified to have 2 exogenous latent factors, 7 corresponding error terms, 1 covariance, and 7 factor loadings, totaling 17 parameters. Additionally, the structural model consists of 3 variances and 21 specified directional regression paths, totaling 24 parameters. Therefore, combining the parameters of the measurement and structural models results in an aggregated sum of 41 parameters that comprise the hybrid model. Given that the total number of distinct sample moments exceeds the number of parameters to be estimated by a total of 14 degrees of freedom, results indicate that the specified hybrid model meets the stated criteria for statistical identification. Finally, for a model to be identified, it is required that each latent variable have a scale. In the currently specified hybrid model, it may be noted that both latent factors satisfy this requirement for identification by each having a path coefficient for at least 3 manifest variables and at least 1 of these paths imposing a single parameter constraint (Kline, 1998).
Estimation and Indices of Model Fit

Kline (1998) asserts that estimation of hybrid models in SEM is a multi-stage process whereby multiple indices of correspondence between estimated and residual covariance matrices are examined in efforts to achieve the series of structural equations that in combination best predict the observed data. The first stage involves taking a reading of various fit indices to determine a baseline degree of fit for the originally specified model. Subsequently, model "trimming" procedures are performed whereby regression coefficients are tested for significance, with inadequate paths incrementally constrained to zero. Each iteration in this process progressively improves the correspondence between predicted and observed scores by restricting poor parameter estimates, thereby increasing the degrees of freedom. Specifically, the chi-square/degrees of freedom ratio provides a powerful index of goodness of fit, with ratio values below 3.0 indicating a high degree of model fit to the data (Kline, 1998). Empirically, the iteration process of model-trimming is generally repeated until the point where constraining path coefficients to zero ceases to improve the indices of model fit. Specifically, three conditions determine the quality of fit between estimated and residual covariance matrices: (1) overall model fit, (2) comparative fit to a base model, and (3) model parsimony. Finally, after the best fit to the data has been achieved, it is recommended that the resulting model be compared to alternative models to insure against over-fitting the model to sample data (Kline, 1998).
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**Overall Model Fit**

With the exception of the chi-square/degrees of freedom ratio noted above, the goodness-of-fit index (GFI) is perhaps the most widely used measurement of overall model fit. With scores ranging from 0 (poor fit) to 1 (perfect fit), it is analogous to the coefficient of determination in regression analysis. Specifically, the GFI represents the degree of similarity between the squared residuals of estimated scores and the observed data. Typically, a GFI value of .90 or greater is considered to be indicative of a high degree of model fit to the data (Mulaik, James, Van Alstine, Bennett, Lind, & Stilwell, 1989).

**Incremental Model Fit**

Indices of incremental model fit compare the goodness of fit for a given model to a “base,” “null,” or “independence” model, which represents a hypothesized general-factor with no measurement error (Hair et al., 1995). The adjusted goodness of fit index (AGFI) is an incremental fit measure akin to the GFI in the sense that it is also a squared multiple correlation. Also like the GFI, the possible values of the AGFI range from 0 (poor fit) to 1 (perfect fit) and recommended values for indicating adequate incremental fit are .90 or greater. However, the AGFI adjusts downward the value of the GFI to account for the attenuating effects of model complexity. That is, the AGFI adjusts the GFI by the ratio of degrees of freedom for the specified model to the degrees of freedom for the null model (Hair et. al., 1995).

An alternative to using the AGFI is an index called the comparative fit index (CFI), whose specified model values may be interpreted as degrees of proportional
improvement to the null model. Thus, a CFI = .90 indicates that the specified model is a 90% better fit to the data than the base model. In addition, the incremental fit index (IFI) and the Tucker-Lewis Index (TLI) are incremental fit indices similar to the AGFI that make adjustments for model complexity. Each of these incremental fit indices are calculated in slightly different ways, but each range from 0 (poor fit) to 1 (perfect fit) and have a recommended criteria of .90 or greater to determine a high degree of incremental model fit to the data.

Model Parsimony

Model parsimony refers to achieving a higher degree of fit per degree of freedom used (Hair et. al., 1995). Hair (1995) presents the Akaike information criterion (AIC) is a useful index of model parsimony. The AIC provides an estimate for three different matrices: (1) the specified model, (2) a saturated model representing the maximum number of model parameters allowable for just-identification (i.e. the model has an equal number of observations and parameters), and (3) a base or null model that represents a general factor related to each indicator with an absence of measurement error. Unlike most of the above-mentioned indices, AIC values close to zero are preferable. A low AIC value indicates that the specified model achieves a good degree of model fit with relatively few estimated coefficients. An added feature of the AIC is that low values also indicate stability of the solution, which is evidentiary of a model probably not “over-fitted” to the sample data. In sum, although the GFI, AGFI, and AIC are the primary indices for the three necessary conditions of model fit, the chi
square/degrees of freedom ratio, CFI, IFI, and TLI will also be examined as collateral information throughout model estimation procedures.

**Estimation of the Hybrid Model**

The first step in model estimation involves taking a preliminary reading of fit indices for the specified model in order to achieve a baseline estimate for use in subsequent model trimming procedures. Initial results indicate that the specified hybrid model achieved a high degree of overall model fit (GFI = .97) and a moderate degree of incremental fit (AGFI = .88). However, the estimate of model parsimony was poor (AIC = 118.74), with the saturated model achieving and estimate of 110.0 and the independence model achieving an estimate of 316.74. Therefore, the originally specified model’s degree of fit per degree of freedom was comparable to that of the saturated or just-identified model that specifies a maximum number of model parameters. This called for model trimming techniques in which each regression coefficient is tested for significance and either trimmed or retained accordingly. Specifically, significance testing for each regression weight is repeated with every iteration in which only one path may be trimmed per step. The iteration history of the model trimming procedures is presented in Table 5.
### Table 5

**Iteration History of Model Trimming**

<table>
<thead>
<tr>
<th>Model/Iteration</th>
<th>Trimmed Path (Set to Zero)</th>
<th>SRW</th>
<th>$X^2/df$</th>
<th>GFI</th>
<th>AGFI</th>
<th>CFI</th>
<th>IFI</th>
<th>TL</th>
<th>AIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original</td>
<td>Full Model</td>
<td>N/A</td>
<td>3.15</td>
<td>0.97</td>
<td>0.87</td>
<td>0.89</td>
<td>0.90</td>
<td>0.65</td>
<td>126.00</td>
</tr>
<tr>
<td>Mesokurtic</td>
<td>Full Model</td>
<td>N/A</td>
<td>2.62</td>
<td>0.97</td>
<td>0.88</td>
<td>0.91</td>
<td>0.92</td>
<td>0.71</td>
<td>118.74</td>
</tr>
<tr>
<td>2</td>
<td>Power-Disp</td>
<td>0.01</td>
<td>2.45</td>
<td>0.97</td>
<td>0.89</td>
<td>0.91</td>
<td>0.92</td>
<td>0.74</td>
<td>116.76</td>
</tr>
<tr>
<td>3</td>
<td>Sense-Pds</td>
<td>-0.01</td>
<td>2.30</td>
<td>0.97</td>
<td>0.89</td>
<td>0.92</td>
<td>0.93</td>
<td>0.77</td>
<td>114.81</td>
</tr>
<tr>
<td>4</td>
<td>Release-Prison</td>
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<td>0.92</td>
<td>0.93</td>
<td>0.79</td>
<td>113.14</td>
</tr>
<tr>
<td>5</td>
<td>Sense-Prison</td>
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<td>2.09</td>
<td>0.97</td>
<td>0.90</td>
<td>0.92</td>
<td>0.93</td>
<td>0.81</td>
<td>111.59</td>
</tr>
<tr>
<td>6</td>
<td>Judge-Pds</td>
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<td>0.91</td>
<td>0.92</td>
<td>0.93</td>
<td>0.82</td>
<td>110.06</td>
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<tr>
<td>7</td>
<td>Ratio-Disp</td>
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<td>0.97</td>
<td>0.91</td>
<td>0.93</td>
<td>0.93</td>
<td>0.84</td>
<td>108.49</td>
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<tr>
<td>8</td>
<td>Prison-Pds</td>
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<td>1.85</td>
<td>0.97</td>
<td>0.92</td>
<td>0.93</td>
<td>0.94</td>
<td>0.85</td>
<td>106.9</td>
</tr>
<tr>
<td>9</td>
<td>Extra-Prison</td>
<td>-0.04</td>
<td>1.79</td>
<td>0.97</td>
<td>0.92</td>
<td>0.93</td>
<td>0.94</td>
<td>0.86</td>
<td>105.46</td>
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<tr>
<td>10</td>
<td>Ratio-Prison</td>
<td>-0.05</td>
<td>1.74</td>
<td>0.97</td>
<td>0.92</td>
<td>0.93</td>
<td>0.94</td>
<td>0.87</td>
<td>104.13</td>
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<td>11</td>
<td>Ratio-Pds</td>
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<td>0.93</td>
<td>0.94</td>
<td>0.87</td>
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<td>12</td>
<td>Judge-Disp</td>
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<td>1.66</td>
<td>0.97</td>
<td>0.92</td>
<td>0.93</td>
<td>0.94</td>
<td>0.88</td>
<td>101.62</td>
</tr>
<tr>
<td>13</td>
<td>Extra-Disp</td>
<td>0.08</td>
<td>1.67</td>
<td>0.96</td>
<td>0.92</td>
<td>0.93</td>
<td>0.94</td>
<td>0.88</td>
<td>101.31</td>
</tr>
</tbody>
</table>

**Note.** SRW = Standardized Regression Weights; $X^2/df$ = Chi Square/Degrees of Freedom; GFI = Goodness of Fit Index; AGFI = Adjusted Goodness of Fit Index; CFI = Comparative Goodness of Fit Index; IFI = Incremental Goodness of Fit Index; TLI = Tucker-Lewis Index; AIC = Akaike Information Criterion

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As depicted in Table 5, a total of 13 iterations were performed. All of the fit indices progressively improved at each of 12 steps. However, at the 13th iteration both of the overall goodness of fit indices worsened, with the chi square/degrees of freedom ratio increasing from 1.66 to 1.67 and the GFI decreasing from .97 to .96. Therefore, the regression estimates of the structural equations achieved at the 12th iteration were retained and determined to be the best possible fit to the data. Overall, attempts to fit the hypothesized model to the data were successful. Indices of overall model fit were high, with GFI = .97 and the chi square/degrees of freedom ratio = 1.66, well below the recommended 3.0 criterion and non-significant \( p < .01 \). Also, overall indices of incremental fit were high, with AGFI = .92, CFI = .93, IFI = .94, and TLI = .88. Likewise, the model parsimony achieved incremental improvement, ending at AIC = 101.31. Of the original 23 structural paths, 11 were constrained to zero during model trimming procedures, resulting in 12 remaining causal paths. Results of significance testing indicate that 9 of the 12 causal paths that were retained are statistically significant \( p < .05 \).

**Comparison of Alternative Structural Models**

When using structural equation modeling, it is often helpful to compare the final path model to alternative models in order to compare indices of fit. The integrative model was compared with alternative theoretical models to determine the best model of data fit. Specifically, the influence of importation manifest variables and deprivation manifest variables entered separately, rather than in combination, was analyzed.
Overall, inspection of all fit indices found the integrative model to have a better fit to the data than either the importation model or the deprivation model alone.

Previous research has included demographic variables as representations of the importation model. Although the present study did not include background variables as part of the importation model in the current hypothesized relationships, a comparative model including age as an importation variable was tested. Although the paths from age to disciplinary infractions and prisonization had significant regression weights ($p < .05$), age did not significantly load as an indicator of importation ($p > .05$). Furthermore, the inclusion of age in the model did not significantly increase the goodness-of-fit indices as compared to the integrative model. Comparative fit indices are presented in Table 6. See Figure 1 for a pictorial depiction of the final estimated model.
Table 6

*Fit Indices for Comparative Models*

<table>
<thead>
<tr>
<th></th>
<th>$\chi^2$/df</th>
<th>GFI</th>
<th>AGFI</th>
<th>CFI</th>
<th>IFI</th>
<th>TLI</th>
<th>AIC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrative Model</strong></td>
<td>1.66</td>
<td>0.97</td>
<td>0.92</td>
<td>0.93</td>
<td>0.94</td>
<td>0.88</td>
<td>101.62</td>
</tr>
<tr>
<td><strong>Deprivation Model</strong></td>
<td>3.23</td>
<td>0.94</td>
<td>0.87</td>
<td>0.77</td>
<td>0.79</td>
<td>0.60</td>
<td>141.91</td>
</tr>
<tr>
<td><strong>Importation Model</strong></td>
<td>5.72</td>
<td>0.91</td>
<td>0.79</td>
<td>0.57</td>
<td>0.60</td>
<td>0.16</td>
<td>195.45</td>
</tr>
<tr>
<td><strong>Age Model</strong></td>
<td>1.49</td>
<td>0.97</td>
<td>0.92</td>
<td>0.94</td>
<td>0.94</td>
<td>0.89</td>
<td>116.46</td>
</tr>
</tbody>
</table>

*Note.* SRW = $\chi^2$/df = Chi Square/Degrees of Freedom; GFI = Goodness of Fit Index; AGFI = Adjusted Goodness of Fit Index; CFI = Comparative Goodness of Fit Index; IFI = Incremental Goodness of Fit Index; TLI = Tucker-Lewis Index; AIC = Akaike Information Criterion
FIGURE 1: Path diagram of hybrid model
CHAPTER 4

Discussion

The present study aimed to investigate the ability of inmate models of adaptation to predict inmate levels of adjustment and prisonization. Though inmate models of adaptation have previously been investigated as possible predictors of prisonization, an additional goal of the current study was to examine whether these models could be expanded to the area of inmate levels of adjustment. For a researcher to achieve this goal, variables that specifically examine personality factors and that address perceived levels of institutional adjustment were included. The present study examined the ability to predict levels of adjustment to incarceration through the lens of theoretically derived models. It was proposed that the ability to effectively function while incarcerated can be explained more thoroughly by combining factors related to the individual as well as to the environment as opposed to emphasizing either person variables or environmental influences respectively. Additionally, it was proposed that the traditional method of accounting for adjustment through the measure of disciplinary infractions would result in a restriction in range, and that more of the variance in adjustment would be accounted for when adding emotional and psychological components to the definition of adjustment.
**Hypotheses**

The present study sought to expand on the research previously conducted in the examination of prisonization and adjustment to incarceration. Specifically, variables comprising the importation and deprivation models of inmate adaptation were expanded from a more limited independent investigation of prisonization to examining their relationships with adjustment to incarceration as well. Clemmer (1950) described prisonization as the process in which inmates "begin to adopt the folkways, mores, customs, and general culture of the inmate subculture." In addition, Clemmer originally hypothesized that levels of prisonization develop to varying degrees as individuals comprising the prison population attempt to find a method for coping with the arduous experience of incarceration. The current study served as a first attempt to understand the relationship, if any, between prisonization and perceived levels of adjustment. Furthermore, the importation model of adaptation has hypothesized that previous experiences, demographic backgrounds of individuals, and personality factors influence one's ability to adjust to incarceration. While previous studies have investigated the influence of prior experiences and demographic variables in the prediction of prisonization (Irwin & Cressey, 1962; Paterline & Petersen, 1999; Thomas, 1973), the present study expanded this research by including personality variables in the examination of factors that influence both the development of prisonization levels and perceived levels of adjustment.

Clemmer (1950) introduced the concept of "prisonization" as an attempt to explain the process that inmates undergo when trying to adapt to the pains and pressures experienced through incarceration. More specifically, prisonization can be thought of as
a uniting, based on a common belief system, that inmates begin to develop upon
entering prison as a means of coping with the stressors of confinement. Clemmer (1950)
hypothesized that inmates band together in varying degrees as a way of uniting in
opposition against the administration that they presumably believe are responsible for
their confinement. Clemmer's (1950) classic study described this inmate subculture as
resistant to the administrative power of the institutional organization. He argued that
this uniting of inmate standards against the formal prison administration serves as a
useful method for reducing the pressures caused by exposure to the institutional
environment by providing a support system within the walls of the prison.

Since Clemmer's (1950) description of the prisonization process, two competing
models have been developed in an attempt to explain the factors that influence the
production of differing levels of prisonization. The deprivation model argues that the
direct experience of incarceration and its depriving effects are the primary reasons for
the development of prisonization (Goffman, 1961; Sykes, 1958; Sykes & Messinger,
1960). Opponents of this model argue that a weakness with the deprivation perspective
lies in its inability to accurately account for individual differences in the development of
prisonization beliefs and behaviors. It is argued that if all inmates experience similar
deprivations upon entering the prison environment, then all inmates should develop
similar beliefs regarding their incarceration and the institutional administrative body
(Paterline & Petersen, 1999). However, varying levels of prisonization and acceptance
of the "inmate codes" have been reported (Paterline & Petersen, 1999). Based on this
criticism, a second model of adaptation known as the importation model was developed.
The importation model argues that individuals "import" their backgrounds, previous
experiences, and unique personalities into the prison environment upon their entrance (Irwin & Cressey, 1962). It is these individual differences in prior experience and personality that influence the development of prisonization among the population of inmates.

Studies have attempted to investigate and clarify the influences of these two models to the prisonization process (Giallombardo, 1966; Hefferman, 1972; Jensen, 1977; Jones, 1976; Kruttschnitt, 1981; Thomas, Petersen, & Zingriff, 1978; Ward & Kassebaum, 1965). Although the deprivation model has been studied more thoroughly, overwhelming support seems to be found for the importance of both models in the explanation of the prisonization process. These researchers have argued for a blending of these two perspectives into one integrated model (Hefferman, 1972; Jensen, 1977; Jones, 1976; Krutschnitt, 1981, Ward & Kassebaum, 1965).

Clemmer originally proposed the theory of prisonization as a means of explaining the ways in which inmates attempt to adequately adapt or adjust to the experience of incarceration. Traditionally (Panton, 1958, 1979a, 1979b; Wattron, 1963), behavioral measures such as number of disciplinary infractions or length of time in segregation have been used as the defining feature as to whether or not an inmate is adjusting well or poorly to the prison environment. If an inmate fails to conform to the administrative rules of his confinement and, hence, receives a large number of disciplinary infractions, that individual is typically described as maladjusted. If, on the other hand, an individual conforms to administrative expectations, participates in work and recreational experiences, and rarely receives disciplinary reprimands, that individual is commonly described as well adjusted. However, most research in the area
of institutional adjustment, as well as procedural policies stemming from this research, has failed to take into account any emotional or psychological descriptions of adjustment that could possibly add to the understanding or the overall adjustment process.

The current study sought to improve upon the limitations of previous research in a number of ways. First, the models of adaptation have traditionally been applied directly to the explanation of prisonization. Since Clemmer originally hypothesized that prisonization serves as a means of adjusting to the prison environment, the next logical step appears to be the exploration of the relationships between the models of adaptation, prisonization, and adjustment. Second, based on a lack in previous research of the inclusion of measures of personality in the examination of the importation model, personality factors have been included in the present study. Finally, it is purported that behavioral measures alone could not accurately account for the entire process of adjustment to incarceration, as relatively few inmates on average receive disciplinary infractions, while many more often describe having emotional and psychological difficulty adjusting to their incarceration. In addition to the commonly used measure of adjustment, number of disciplinary infractions, the present study included a second measure of adjustment thought to encompass a more thorough description of one's level of perceived distress.

Hypothesis 1

Commensurate with suggestions from previous researchers (Giallombardo, 1966; Hefferman, 1972; Jensen, 1977; Jones, 1976; Kruttschnitt, 1981; Thomas,
Petersen, & Zingraff, 1978; Ward & Kassebaum, 1965) data results are in support of
the hypothesis that the integrative model would account for more of the explained
variance in prisonization and adjustment levels than either the deprivation model or the
importation model tested separately as evidenced by structural and measurement model
fit indices (Integrative Model Indices: $\chi^2 = 1.67$, GFI = 0.96, AGFI = 0.92, CFI = 0.93,
IFI = 0.94, TLI = 0.88, AIC = 101.31; Deprivation Model Indices: $\chi^2 = 3.23$, GFI =
0.94, AGFI = 0.87, CFI = 0.77, IFI = 0.79, TLI = 0.60, AIC = 141.91; Importation
Model Indices: $\chi^2 = 5.72$, GFI = 0.91, AGFI = 0.79, CFI = 0.57, IFI = 0.60, TLI = 0.16,
AIC = 195.45). Additionally, when comparing the deprivation model to the importation
model, the deprivation model resulted in a better fit to the data.

**Hypothesis 2**

The hypothesis that the integrative model will account for more of the explained
variance in adjustment as measured by the Perceived Distress Scale of the CSI than by
disciplinary infractions was supported. Analysis of the standardized regression weights
from importation model variables and deprivation model variables as predictors of
adjustment levels consistently found larger weights when predicting perceived distress
as compared to disciplinary infractions. Moreover, examination of the bivariate
correlations of the sample indicated that the majority of exogenous variables had no
significant correlations with number of disciplinary infractions. See Table 7 for
comparison of regression weights.
Table 7

*Standardized Beta Weights Comparing Perceived Distress and Disciplinary Infractions*

<table>
<thead>
<tr>
<th>Path</th>
<th>Regression Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>J-P to Disciplinary Infraction</td>
<td>.00</td>
</tr>
<tr>
<td>J-P to Perceived Distress</td>
<td>.00</td>
</tr>
<tr>
<td>T-F to Disciplinary Infraction</td>
<td>-.10</td>
</tr>
<tr>
<td>T-F to Perceived Distress</td>
<td>-.18</td>
</tr>
<tr>
<td>S-N to Disciplinary Infraction</td>
<td>.14</td>
</tr>
<tr>
<td>S-N to Perceived Distress</td>
<td>.00</td>
</tr>
<tr>
<td>E-I to Disciplinary Infraction</td>
<td>.08</td>
</tr>
<tr>
<td>E-I to Perceived Distress</td>
<td>-.15</td>
</tr>
<tr>
<td>Time to Disciplinary Infraction</td>
<td>.00</td>
</tr>
<tr>
<td>Time to Perceived Distress</td>
<td>.00</td>
</tr>
<tr>
<td>Post Release Expectations to Disciplinary Infraction</td>
<td>-.11</td>
</tr>
<tr>
<td>Post Release Expectations to Perceived Distress</td>
<td>.35</td>
</tr>
<tr>
<td>Powerlessness to Disciplinary Infractions</td>
<td>.00</td>
</tr>
<tr>
<td>Powerlessness to Perceived Distress</td>
<td>.15</td>
</tr>
</tbody>
</table>

*Note.* J-P = Judging/Perceiving Scale; T-F = Thinking/Feeling Scale; S-N = Sensing/Intuition Scale; E-I = Extraversion/Introversion Scale
Hypothesis 3

The hypothesis that prisonization would serve as a mediator between exogenous variables (i.e., deprivation and importation variables) and endogenous variables (i.e., Perceived Distress Scale and disciplinary infractions) was partially supported by the data. Prisonization was found to mediate the relationship between adaptation model variables and number of total disciplinary infractions. According to the structural model, the path between prisonization and disciplinary infractions obtained a significant regression weight of .20. Additionally, the relationship between prisonization, as a mediator in the model, and number of disciplinary infractions obtained a significant correlation in the positive direction of $r = .154$ ($p < .05$). However, based on a low regression coefficients from prisonization to perceived distress ($R = .042$), model trimming techniques were applied. This relationship was set to zero and excluding from future analyses. Furthermore, prisonization as a mediator was not significantly correlated with levels of perceived distress in the current sample.

Hypothesis 4

The hypothesis that the ratio of time served to total sentence length would have a positive relationship with prisonization and levels of adjustment was not supported. The ratio of time served to total sentence length was not found to have significant standardized regression weights when entered as an exogenous predictor of adjustment levels or prisonization ($R = .049$, $R = .041$, and $R = -.046$). Using model-trimming techniques, subsequent paths from time served to endogenous variables were set to zero.
and excluded from the analyses. No significant correlations were found between the
time-served ratio and endogenous variables.

Hypothesis 5

It was hypothesized that inmates who score high on Powerlessness and high on
Postrelease Expectations scales (pessimistic) would result in poorer adjustment levels.
The hypothesized relationships between these scales and levels of perceived distress
were supported. According to the structural model, individuals who indicated that they
felt high levels of lack of control or power in their own lives also reported higher levels
of perceived distress ($R = .15$). Analysis of bivariate correlations also found
Corresponding results between these variables ($r = .30$). Likewise, individuals who were
more pessimistic about their futures reported higher levels of perceived distress as
measured by regression weights and bivariate correlations ($R = .35$, $r = .44$).

However, the hypothesis that high scores on the Postrelease Expectations scale
would result in greater number of disciplinary infractions was not supported according
to the structural model. Based on regression coefficients, individuals with high scores
on Postrelease Expectations scored lower on number of disciplinary infractions ($R = -.11$). The bivariate correlation between Postrelease Expectations and disciplinary
infractions was non-significant ($r = -.09$). Furthermore, based on a low regression
weight ($R = .011$), the path from Powerlessness to disciplinary infractions was set to
zero and excluded from subsequent analyses. The bivariate correlation between these
two variables was non-significant ($r = -.08$).
Hypothesis 6

The hypothesized relationship between Introverted types and levels of adjustment was not supported in the present sample. Significant results were found when evaluating Extraverted and Introverted types; however, the relationships were in the opposite directions than hypothesized. Based on both structural model analysis and bivariate correlations, Extraverted types were found to report lower levels of perceived distress ($R = -.15, r = -.22$). The relationship between Extraversion and disciplinary infractions was non-significant according to regression weights and correlation coefficients. As expected, Thinking types reported significantly lower levels of perceived distress compared to Feeling types ($R = -.18, r = -.19$). Thinking types also had lower numbers of disciplinary infractions as compared to Feeling types ($R = -.10, r = -.13$ non-significant). The hypothesized relationship between Sensing types and adjustment levels was not supported in the present sample. Sensing types, as compared to Intuitive types, had a greater number of disciplinary infractions ($R = .14, r = .14$). Additionally, the structural path from Sensing to perceived distress ($R = -.013$) was set to zero and excluded from subsequent analyses. Although analysis of the standardized regression weights between Judging and adjustment variables resulted in these paths being set to zero in the structural model ($R = -.04$ with PDS and $R = -.05$ with disciplinary infractions), bivariate correlation analyses indicated that Judging types were significantly correlated with lower levels of perceived distress ($r = -.182, p < .01$) as compared to Perceiving types ($r = .182, p < .01$) as hypothesized. No significant correlations were found between Judging or Perceiving types and number of disciplinary infractions.
Summary of Findings

The hypothesis that the integrative model would account for more of the explained variance in the model than either the deprivation model or the importation model separately was supported. Using model trimming techniques (Kline, 1998), analyses of fit indices indicated that the integrative model had a better fit to the data and served as a more parsimonious model, than either the importation model or the deprivation models alone. However, in comparing the overall effects of each model separately, the deprivation model had a better fit to the data than the importation model. This finding is consistent with previous literature (Paterline & Petersen, 1999). While the deprivation model appears to account for more of the explained variance in the present study, the addition of personality variables does contribute to the overall explanatory power of the theorized model. As suggested in previous literature (Giallombardo, 1966; Hefferman, 1972; Jensen, 1977; Jones, 1976; Kruttschnitt, 1981; Thomas, Petersen, & Zingraff, 1978; Ward & Kassebaum, 1965) the inclusion of person and environment variables into one larger integrative model appears to provide a more thorough understanding of the process of adjustment in a prison setting. Although the present findings are promising, researchers should be cautious when making conclusions based on one study. Future studies are needed in an attempt to replicate present findings.

To clarify what differences, if any, were found based on type of deprivational environment experienced, multiple one-way analysis of variance tests were computed with all variables by type of institution. With respect to age, individuals at the lowest level of security (Camp) were found to have the highest mean age as compared with all
other institutions. This finding may be due to the fact that, in the prison setting, while these individuals may have the shortest amount of time remaining, many individuals originally from higher security institutions may have worked their way to a lower security status through good behavior. Individuals from the Medical Center, or hospital, setting were found to significantly differ from individuals at the highest security level studied in regards to feelings of overall powerlessness and levels of prisonization. Individuals from the hospital setting were scored significantly higher on both variables, suggesting that the deprivations experienced between a hospital and a more traditional prison setting may, in fact, be different. Furthermore, individuals in a prison medical center setting can potentially be comprised of individuals originally from all levels of security, including penitentiary inmates and potentially increasing their overall levels of powerlessness and prisonization. Because the Powerlessness scale was a combination of items from two previous scales, the original scale items were scored and compared. Individuals did not significantly differ on their overall feelings of general powerlessness; however, results indicate that the order of mean scores (from highest to lowest, respectively) seems to suggest that feelings of general powerlessness are due to environmental influences rather than personality differences. Finally, individuals at the two highest security levels (Medium and Low) significantly differed from those at the lowest security institutions (Hospital and Camp), with least restrictive environments resulting in stronger feelings of organizational powerlessness. This finding may suggest that individuals who currently live in environments closer to their home environments may feel the effects of deprivation at a higher level. It should be
noted that the use of multiple one-way ANOVAs may increase the possibility of a Type I error and results should be interpreted with caution.

As hypothesized, disciplinary infractions, as compared with perceived levels of distress, did not load as heavily in the structural model. Examination of bivariate correlations found relatively few significant relationships between disciplinary infractions and exogenous variables. Furthermore, with respect to behavioral adjustment, previous research (Brown & Pevacek, 1971; Coe, 1961; Myers & Levy, 1978; Sappington, 1996; Sorensen, Wrinkle, & Gutierrez; White, 1981), has found an association between demographic factors such as age, race, type of crime committed, education level, and disciplinary infractions. With the exception of age, the present results did not replicate these findings as evidenced by exploratory cross-tab analyses. With the exception of the inclusion of the highest security level (penitentiary), the current sample is similar in demographic characteristics to samples used in previous studies (i.e., age ranges, racial composition, type of crimes committed, etc.). Therefore, the failure to replicate past findings is not likely related to demographic characteristics of the current sample. A more plausible explanation for the lack of association between demographic variables and disciplinary infractions lies in the low rate of disciplinary infractions in the current study. Based on a suspicion of possible restriction in range with this variable, disciplinary infractions were collected within the last year of confinement, as well as for the total amount of time served since arrival at the first federal institution. However, low infraction rates were found regardless of the length of time served. With respect to the last year of confinement, an overwhelming 80.6% of all participants had no disciplinary infractions. Only 3.6% of the total sample had received
more three or more infractions all year. When considering the total amount of time served, more than half of the sample (55.4%) still had not received any disciplinary infractions. The mean number of infractions continued to be less than two total write-ups.

Similar findings were reported by Boothby (2001) who also attempted to compare the utility of using disciplinary infractions as a measure of adjustment as compared to variables including emotional and psychological descriptors. In that sample, only 28% of all participants had incurred a write-up for a rule violation within a four-month study period. Of those committing rule violations, the majority committed a single infraction. Although one explanation provided for the low number of disciplinary infractions in that study was the relatively short length of time investigated (4 months), the current study extended the time frame of incarceration not only up to one year but also to the total amount of time served.

Previous research has linked younger inmates with higher levels of prisonization and a greater number of disciplinary infractions (Ekland-Olson, Barrick, & Cohen, 1983; Hartnagel & Gillan, 1980). Although other demographic variables were not related to prisonization or disciplinary infractions in the current sample, results were similar to previous studies with regards to age. Younger inmates were associated with larger numbers of disciplinary infractions and a greater degree of association with the inmate culture. One possible explanation for this finding may be that younger individuals are more impulsive and may have greater difficulty behaviorally adjusting to the controlling and structured life of prison, therefore resulting in larger numbers of rule infractions. Younger inmates may also be more susceptible to peer group pressure.
and may possibly be more attracted to the group solidarity expressed in the adoption of an inmate code. It should be noted that the inclusion of age in the structural model did not significantly increase fit indices. Additionally, age did not significantly load as an indicator of the importation factor. These findings may suggest that the relationship between age, prisonization, and disciplinary infractions may not be directly related to importation. However, given that other previously tested variables accounting for previous experiences and demographic variables were not tested under the importation model, future research is needed to clarify which variables truly account for importation and the importance of each in the overall model.

With the exception of the S-N scale, all variables failed to correlate significantly with total number of disciplinary infractions. When comparing Perceived Distress scores and disciplinary infractions in the structural path model, standardized regression weights were consistently lower when predicting number of disciplinary infractions in the model. Again, this is perhaps due to a restriction in range inherent in the use of disciplinary infractions. Relatively few inmates on average receive disciplinary infractions, while many inmates often describe having emotional or psychological difficulty adjusting to incarceration. Results of the present sample indicate that even for those inmates who do receive disciplinary infractions, the average total number of write-ups was less than two infractions. Therefore, results of the current study suggest that disciplinary infractions may in fact be too narrow of a measure to adequately explain the process of adjustment to incarceration and that the addition of emotional and psychological descriptors would be of benefit to the understanding of the adjustment process.
In an attempt to address the second half of the importation model, personality factors were included in the present study. As expected, results of the current study suggest that one's personality make-up, interests, and values appear to influence their ability to adequately adjust to incarceration as measured by their self-reported description of perceived distress. However, only partial support was found for the expected directions of these relationships. This study is unique in that it is the first known study to use theta scores of the MBTI-Form M in research within a prison setting.

With respect to the E-I scale, Extraverted types, as opposed to hypothesized Introverted types, described feeling less distressed or less maladjusted in the present sample, failing to support the hypothesized relationships. Previous research using the MBTI in other types of settings may point to one of the potential reasons for why Extraverted types may have endorsed lower perceived distress in the current sample. In a comparison study of the Myers-Briggs Type Indicator and the 16 Personality Factors (16PF), Russel & Karol (1994) (as cited in Myers et al., 1998), reported that Emotional Stability was significantly positively correlated with Extraversion and negatively correlated with Introversion. Relatedly, Anxiety was negatively correlated with Extraversion and positively correlated with Introversion. Research cited by Speilberger (1983) also found Introversion to be positively correlated to Emotional Exhaustion as measured on the Maslach Burnout Inventory. Introversion was also positively correlated with both State and Trait anxiety as measured on the State-Trait Anxiety Inventory in the same study. Summarizing, the current findings are consistent with previous research
suggesting that Extraverted types may experience less emotional distress or discomfort than their Introverted counterparts.

Expected hypothesized relationships were also not supported with regards to Sensing and Intuitive types and adjustment levels. Sensing individuals were found to have higher numbers of disciplinary infractions, as opposed to Intuitive types. This finding is consistent with suggestions by Lippin (1990), who hypothesized that the overrepresentation of Sensing types may indicate a population of inmates who have more difficulty adjusting to prison life than other types may have. Sensing and Intuition were not significantly related to levels of perceived distress. Sensing has been referred to as perceptions that are observable by way of the five senses (Quenck, 2000). Sensory experience can bring to awareness only what is occurring in the present moment. Persons with a preference toward Sensing are typically described as “living in the here-and-now” (Myers et al., 1998). One possible hypothesis for why Sensing types received a statistically greater number of disciplinary infractions could be that they have a stronger reliance on observations and experiences of the present moment rather than attending to future possibilities and consequences. In a prison setting, careful consideration regarding how every behavior may potentially be in violation of institutional rules is required. Oftentimes, behaviors that appear innocuous (e.g., having one pair of socks over the allowable limit) could result in a disciplinary write-up. One possible explanation for the present findings is that Sensing types may not adequately consider the future consequences of everyday behaviors and decisions in a prison setting, potentially resulting in a greater number of institutional infractions compared with their Intuitive counterparts. An alternative interpretation could be that Sensing
types may have a more physical or immediate response to obvious features of a situation and less response to socially subtle features more commonly available to Intuitive types. However, based on the failure of previous research to investigate the relationship between personality types and adjustment in a prison setting, interpretive conclusions should be made with caution. Future research is needed to clarify further the relationships between personality and the ability to adjust to a prison environment.

Thinking types, as hypothesized, were significantly better adjusted as evidenced by their self-reported levels of perceived distress, as well as through behavioral indicators. In theory, Thinking types are described as tough-minded, controlling, prefer order, take skeptical approaches to problems, and often display a sense of coolness or distance in interpersonal relationships (Myers et al., 1998). As described by Bridges (1992), prison environments also tend to approach problems and decision making in a similar fashion. Feeling types, on the other hand, prefer to make judgments on the basis of subjective values, attach importance to interpersonal warmth, and tend to have a trusting rather than skeptical approach toward decision-making. The findings of the present study suggest that taking an analytical, and somewhat more dispassionate, approach when thinking about everyday decisions may be more adaptive in environments such as a prison setting. Correlates of Thinking types also seem to be associated with the male sex role. The present study included an all male sample from four different institutions. Prison environments in particular often place a high value on characteristics related to the male sex role. Future studies are needed to replicate these results, as well as compare the current findings to sample using female inmates.
Last, although regression weights for the J-P scale did not load in the model, bivariate correlation analyses indicated that Judging types were significantly associated with lower levels of perceived distress. The current sample has also replicated findings from previous research (Gibb, 1989; Linton & Whitehead, 1981; Lippin, 1990; Livernoise, 1987; Long et al., 1995; Luzander, 1984) indicating a proportionally large percentage of Judging types in a prison setting relative to the overall population. Judging types are generally described as being rule conscious, responsible, and self-controlling, characteristics highly valued by administrative personnel in a prison setting. Moreover, Judging individuals commonly feel more comfortable analyzing a situation and arriving at a decision quickly. It is possible that this trait may be especially adaptive in a prison setting, where a large proportion of an inmate’s waking hours is spent in idle time. Conversely, Perceiving types often attend to receive information as long as possible in an effort to miss nothing that might be important before making a decision. This may allow them to spend much of this idle time ruminating over unsolved problems and potentially increasing their level of distress.

Investigation of the deprivation model has consistently found the amount of time served to be associated with levels of prisonization. The present study failed to replicate this finding. The ratio of time served was calculated using amount of time at the current institution and total amount of time served since entering the Federal system. Amount of time served did not load on any of the variables in the structural model and was subsequently dropped from the analyses. After log linear transformation, amount of time served was reentered into the model and again, did not significantly load on any of the variables. A possible explanation for this finding may be found in the type of
institution studied. Previous studies have primarily investigated the influence of time served using a sample of inmates incarcerated within a state prison system versus a Federal system, as used in the present study. There may perhaps be a difference in the types of environments and deprivations experienced within the state and Federal prison systems. Additionally, the present study included four institutions of varying security levels (minimum, low, medium, and medical center) within one Federal prison complex in the same geographical region. Although the total amount of time served since the individual entered their first Federal institution was also calculated, caution was taken in attempting to generalize current feelings and beliefs to other populations not tested. Comparison studies with other Federal institutions among varying regions are suggested.

The hypothesis of a positive relationship between postrelease expectations scores and powerlessness scores with levels of adjustment was marginally supported. Individuals who reported that they had less power or ability in controlling their environment or their situation also described more feelings of generalized distress. Individuals who were more pessimistic about their future, particularly upon their release from prison, also reported higher levels of perceived distress. The present study also seems to suggest that one’s perception of their future, specifically whether or not an individual feels hopeful and optimistic or doubtful and pessimistic, appears to have more importance when considering emotional and behavioral adjustment rather than pure acting out behavior. Although feelings of powerless and postrelease expectations did not have significant relationships with disciplinary infractions, it is hypothesized that the restriction in range with disciplinary infractions may have influenced this result.
Finally, the hypothesis that prisonization would serve as a mediator between exogenous and endogenous variables was marginally supported. Earlier research (Giallombardo, 1966; Hefferman, 1972; Jensen, 1977; Jones, 1976; Kruttschnitt, 1981; Thomas, Petersen, & Zingraff, 1978; Ward & Kassebaum, 1965) has found variables assumed to encompass both the importation and deprivation perspectives to be associated with levels of prisonization. Clemmer originally hypothesized that prisonization served as a means of adapting to the stressful prison environment. The present study sought to investigate whether or not this linear progression of relationships did, in fact, exist as theorized.

A review of Clemmer's (1950; 1958) original theory resulted in the assumption that prisonization levels developed in response to feelings of deprivation and the experience of a depriving prison environment. Sykes (1958) and Toch (1977) later attempted to describe some of the deprivations or environmental concerns that may be experienced. Proponents of the importation model have also found support for preprison experiences as influential factors in the development of prisonization levels. Results of the present study support prisonization as a mediator of adjustment when measured by behavioral acting out. Specifically, individuals higher in prisonization also received higher numbers of disciplinary infractions. This relationship is consistent with the theory of prisonization, which assumes that individuals high on prisonization will be opposed to following the rules of the institution. However, based on the current study, the relationship between levels of prisonization and levels of perceived emotional distress remain unclear. Although prisonization did not significantly mediate the relationship between adaptation model variables and perceived distress, one potential
explanation for this outcome may be found in the relatively poor reliability (Cronbach’s Alpha = .57 in current study) of the Prisonization scale. Previous research has not listed reliability coefficients of the Prisonization scale, therefore, comparisons with the present sample could not be made. To make accurate theoretical and empirical conclusions, research necessitates the use of consistent and valid measures of proposed constructs under study. Although prisonization did not mediate the relationship between importation and deprivation model variables and perceived emotional distress, it is unclear whether this is due to a true finding regarding the relationship between prisonization and emotional adjustment or due to statistically related weaknesses of the current instrument.

**Implications for Theory and Research in Counseling/Correctional Psychology**

The current study replicated many of the findings of previous research, specifically in regards to prisonization literature. Repeatedly, researchers have found support for variables included in the importation and deprivation models as predictors of prisonization. The present study served to add to the explanation of these relationships by using multivariate statistical analyses. With the exception of Paterline and Petersen’s (1999) study, previous research investigating the relationship between these variables has used only correlational analyses. Although the use of correlations allows researchers to test whether or not variables may be related in some way, this technique can examine only a single relationship at one time. Additionally, correlations can only describe a given association between variables but cannot begin to address the issue of causality.
The use of structural equation modeling can add to previous research in two important ways. First, SEM provides a straightforward method of dealing with multiple relationships between independent and dependent variables while providing statistical efficiency. Second, the ability of SEM to assess relationships comprehensively can begin to provide a transition from exploratory to confirmatory analysis (Hair et al., 1994; Kline, 1998). For example, the variables of time served, powerlessness, and postrelease expectations have consistently been associated with the construct known as deprivation. Using SEM, the present study confirmed that these variables all significantly loaded on the factor labeled deprivation. In addition, how these variables combine to influence the development of prisonization was tested, rather than looking at each variable separately.

Previous research has consistently found that the combination of importation and deprivation variables appear to provide a more thorough explanation of prisonization. These findings were supported in the present study. The present study added to the support of the importation model by including measures of personality. These findings lend empirical support to theorized relationships between these constructs. Moreover, the theory that high levels of prisonization can result in greater attitudes or behaviors against the rules and regulations set forth by prison administration was supported by the fact that these individuals received a higher number of disciplinary infractions than individuals scoring low on prisonization beliefs.

The current study is unique in that, while lending support to previously theorized relationships, it allowed for a more comprehensive exploration of how these variables relate and to what extent they contribute to the overall explanation of prisonization. Furthermore, although Clemmer (1950) originally theorized that
prisonization would serve as a method for coping with the stress of incarceration, previous research has failed to extend its investigation to levels of adjustment. It should be noted that the use of model trimming techniques in structural equation modeling serves to capitalize on the amount of error variance in the model.

One interesting finding was that prisonization did serve as a mediator in the model, but only to the extent of predicting behavioral acting out. Although disciplinary infractions have traditionally been used as a measure of maladjustment by correctional staff, Clemmer (1950) included acting out as a predictor of levels of prisonization, rather than a measure of how adjusted an individual in a prison setting may be. Instead, Clemmer theorized that prisonization would serve to reduce levels of perceived stress, anxiety, and depression due to the addition of support from one's peers. This finding was not supported in the present study suggesting that the constructs of known as prisonization and psychological adjustment may not be related. Though levels of prisonization appear to develop in a prison sample, a theoretical modification of why this process develops may be necessary, and while many of the same variables appear to influence both prisonization and perceived levels of distress, these two variables due not appear to be related in the present sample.

Another contribution from the present study was the inclusion of personality variables in the analyses. Correctional staff are faced with the daunting task of attempting to predict which individuals may cause an institutional disturbance or which individuals will develop mental health problems while incarcerated. The present study was a first step in attempting to clarify individual characteristics that may affect maladjustment, whether on a behavioral or an emotional level. According to the current
findings, characteristics such as tough-mindedness, self-control, aloofness, interpersonal distancing, extraversion, and a preference for order appear to be adaptive in a prison setting. In contrast, individuals who have difficulty making quick and logical decisions, who value sentiment, who live in the present moment, and who have a preference for solitary experience may have more difficulty adjusting to the regimented life of the prison environment. Future research should continue to explore the influence of individual personality differences on adjustment levels.

Given that coping processes have been theorized to be dependent upon the transaction between person and environment factors, the present study has attempted to incorporate correctional and psychological research to test this relationship. The previous omission by correctional researchers to adequately include the investigation of person variables has left the field void of a unifying conceptualization of the characteristics that may lead to coping ability in a prison setting. The inclusion of these factors to present and future analyses may allow researchers to develop a comprehensive theory that can begin to advance coping research to practice in this applied setting. Results of this are a first step toward a more thorough and comprehensive understanding of how different variables combine to explain the comprehensive process of adjustment to incarceration.

Implications for the Practice of Counseling Psychology

Historically, prisons have been characterized as filthy, brutal, unsanitary, and unsafe. The purpose of prisons have cycled from mere containment and quarantine to penance to punishment and to the correction or rehabilitation of the individual
numerous times throughout history. During this time one common theme has remained, the prison environment has been described as one of the most stressful environments an individual may have to encounter (Clements, 1979; Cullen, 1995; Haney, Banks & Zimbardo, 1973).

Over the course of time, a number of riots and behavioral outbursts have erupted behind prison walls, often forcing prison administrators to toughen their perspective and return to a focus on punishment. Although today’s modern prison system has included a number of educational and treatment programs, by and large, these facilities continue to resemble warehouses in which the individuals are merely expected to work quietly, socialize infrequently, and abide by a strict set of rules to which they are expected to conform their behavior at all times. While few would describe today’s prisons as “brutal” or “inhumane,” prison riots and assaults continue to occur throughout both the state and Federal systems.

Due to the necessity of focusing on custodial issues for the maintenance of behavioral control, adjustment in prison has typically been based on whether or not an individual can refrain from committing rule infractions while in prison. However, with the rise of tougher sentencing laws, an increase in the number of individuals being incarcerated, and with the closing of many mental health hospitals in the recent past, a rising percentage of our country’s mentally ill population have found their way inside prison walls (Bureau of Prison, 1998). As more individuals with psychological and emotional problems are housed in prison institutions, the traditional method for measuring adjustment has begun to become insufficient. Correctional staff are now often faced with experiencing individuals who attempt to harm themselves or others,
who may begin to have a psychotic outburst, who become so depressed or anxious that they are unable to leave their cells, or who merely experience such a large amount of stress that they are unable to adequately cope with the stressors of prison life.

As the number of mentally ill inmates has risen, prison systems have begun to employ mental health professionals among their staff. However, mental health professionals, whose goal is to treat mental health problems, are often at odds with prison administrators, whose goal it is to contain inappropriate behavior. A need has arisen for the union of these two perspectives in an attempt to properly understand the individuals in their care. Clinical and Counseling psychologists are ideal in this respect due to their vast knowledge of research and practice issues that can lead to the development of a better understanding of the factors that may influence the prison adjustment process.

The field of psychology includes a number of theories and psychological tests that provide reliable and valid assessments of intelligence, personality, and psychopathology that may aid in a stronger understanding of adjustment to incarceration and the formulation of appropriate diagnoses of mentally ill inmates. With this understanding, psychologists and other mental health professionals can begin to develop more appropriate screening instruments for predicting a priori which clients may develop problems with adjustment. Moreover, a clear understanding of the dispositional characteristics that influence adjustment can lead to the development of appropriate treatment and educational programs for the reduction of emotional and behavioral problems.
This study has provided a first step in bridging the gap between correctional research and therapeutic practice in correctional institutions. With the inclusion of personality variables to the study of institutional adjustment, an understanding of the aspects of the individual that may be adaptive in a prison setting have begun to develop. With this understanding, prison staff can begin to make policy changes that can facilitate the matching of person and environment characteristics. For example, individuals with similar characteristics may be screened initially upon entering the prison system to allow for more appropriate placement in housing and institutional employment assignments. By matching person and environment characteristics, this may lower the level of perceived distress by inmates who previously may have had difficulty adjusting to an unfamiliar environment.

A thorough conceptualization of the adjustment process can also aid in developing appropriate treatment planning tailored to the individual. For example, there may be some individuals who respond to treatment in one-to-one setting, while others may benefit more from group settings. Without clarification of how dispositional factors combine with environmental factors in the ability to adjust to incarceration, all treatment plans are currently nearly identical. Through the use of science and practice, the field of psychology can aid in the development of more efficacious treatment plans and programs for the prison population.

Limitations

A number of limitations can be found in the instrumentation chosen for use in this study. The Organizational Structure and Prisonization Scale included three of the
scales used in the present study. To date, no known studies have examined the psychometric properties of this instrument other than the means and standard deviations of the proposed scales. After careful examination of these properties using the current sample, all three scales were found to have low to moderate indices of internal consistency (Nunnally & Bernstein, 1994). A related limitation of this instrument lies in the possible instability of the Powerlessness subscales. In the original instrument developed by Thomas and Zingraff (1974), the concept of powerlessness was divided into two separate scales, General Powerlessness and Organizational Powerlessness. Previous researchers have suggested that a minimum of five items is typically needed to achieve a stable subscale (Hair et al., 1992; Nunnally & Bernstein, 1994). Others have suggested that a minimum of seven items is needed (Costa & McCrae, 1992). Due to the fact that the Organizational Powerlessness scale is comprised of only four items, these two scales were combined into one overall measure of powerlessness in the present study. The combination of these two scales could have potentially influenced the validity of the instrument. Additionally, while it has been documented that the reliability of a scale typically increases as the number of items also increases (Nunnally & Bernstein, 1994), there are no known studies available for comparison with this instrument.

Potential limitations can also be found with the Perceived Distress Scale (PDS) as a measure of institutional adjustment. The PDS is a recently added subscale of the Coping Style Inventory (G. Milford, personal communication, August, 2000). Although preliminary analyses suggest that the PDS has similar reliability estimates as estimated by Cronbach’s alpha ($r_\alpha = .89$), this scale has been applied to relatively few samples and
has not been normed for use in a prison population. Moreover, the Coping Style Inventory as a whole has yet to be published in peer-reviewed journals in the field. Although results of this study using a measure of the individual's level of perceived emotional and psychological distress or maladjustment may begin to explain some of the factors that potentially play a role in the concept of adjustment to incarceration, lack of adequate studies assessing the construct validity of this scale make these findings tentative. Caution is recommended when attempting to make interpretive statements based on one preliminary study.

Finally, possible limitations can also be found with the use of the Myers-Briggs Type Indicator (MBTI) as the measure chosen for the assessment of personality factors. The MBTI has a long history of use within the field of psychology. Its psychometric properties have been adequately demonstrated through multiple versions of the instrument and in various settings. However, like the CSI, this instrument has not been normed for use with a prison population. This instrument was chosen for use primarily due to its theoretical underpinnings. It should be recognized, however, that multiple personality instruments from both type and trait approaches exist and may possibly contribute to the overall understanding of the influence of personality factors on adjustment in future studies.

Another potential limitation of the present study involves the reliance on self-report measures of deprivation, personality, and adjustment. With the exception of disciplinary infractions and amount of time served, all variables entered into the structural model were completed by inmates in a self-report format. By necessity, psychological researchers often make use of this format for gathering information from
participants. However, the motivation of participants to provide an accurate report of their experience should be taken into consideration. Prison inmates, as a group, may be particularly hesitant to accurately describe their emotions and perceptions, in part due to possible fear or distrust of staff members. This may have been one of the reasons for a fairly large refusal rate for participation in the current study. In addition, there may be a higher prevalence of individuals meeting criteria for Antisocial Personality Disorder within a prison sample as compared to other applied samples (Guy, Platt, Zwerling, & Bullock, 1985). This disorder, as described in the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR, 2000) is typically characterized by deceitfulness and irresponsibility. While statistical analyses did not indicate any evidence of distorted response styles, this is a possibility in any study using self-report as its primary method of data collection, particularly in a prison setting.

Distorted responding is not the only potential limitation with the use of self-report methods for data collection. Individuals are diverse and, while potentially answering honestly, their responses may show differences due to unique interpretations of items or due to individual differences in previous experiences. Due to the stated limitations with self-reported data, incorporating additional methods of assessment into research methodologies has been suggested (Campbell & Fiske, 1959; Meyer et al., 2000). The present study originally considered adding other methods, in addition to self-report, in the assessment of inmate levels of adjustment. Correctional counselors were considered as third party source that could potentially provide additional information by rating each participant’s level of functioning and adjustment on a
number of items (e.g., evidence of negative emotional states, ability to socialize with others, willingness to follow institutional rules, etc). However, due to the fact that inmates are frequently transferred between units or to and from various institutions, as well as a high turnover rate among correctional staff, many correctional counselors may not have been adequately familiar with individual participants to comment on their everyday behavior. Furthermore, correctional counselors do not typically observe inmate behavior on a daily basis but instead do a monthly or quarterly review of the individuals on their caseloads. Direct and unobtrusive observation of the participants by the researcher in this study was also not considered to be feasible due to the large number of participants across four different institutions.

The present study also presents possible limitations in its ability to generalize the current findings to correctional settings. The current study attempted to utilize participants from a range of security levels with the assumption that higher security inmates may result in more emotional, psychological, and behavioral maladjustment due to changes in deprivation levels. No differences were found in adjustment levels based on type of institution. However, the highest level of institutional security, the Federal penitentiary, was not included in this study. In addition, an all male sample was used in the present study. While the majority of research on prison adjustment has focused primarily on male prisoners due to their much larger representation of the total inmate population, the experiences of females are nonetheless needed if an accurate understanding of adjustment to incarceration is to develop. Finally, a lack of comparison between federal and state prison inmates on adjustment measures may also potentially limit the generalizability of the present findings to other settings.
At least two potential threats to internal validity can be found in the present study. Internal validity refers to the confidence that one can place in inferring a causal relationship among variables while simultaneously eliminating rival hypotheses (Cook & Campbell, 1979). Selection refers to differences between groups that exist prior to the implementation of the study. Selection is often a threat when subjects are initially chosen for a study based on some form of group membership. Although random selection and assignment to testing groups was implemented in the present study, the nature of the prison setting required that subjects be tested in groups based on which institution they are housed in, rather than being combined into one group. Finally, the exclusion of mental health inmates and inmates housed in segregation may have limited that accuracy of institution representation.

A second threat to internal validity potentially found in the present sample is attrition, or mortality. Attrition refers to the effect of subjects dropping out of a study (Cook & Campbell, 1979). Although attrition was not a factor in the sense that subjects who participated in earlier parts of the study dropped out at later portions, a significantly smaller sample than originally chosen was surveyed. The original randomly selected sample included 400 inmates across institutions. Throughout the data collection process subjects were lost due to a lack of desire to participate, failure to complete all surveys, and due to a number of inmates transferred to other institutions from the time they were sampled to the time they were asked to participate. Twenty-six inmates were dropped from the data set due to violations of multivariate assumptions. Comparisons of inmates who chose to participate and those who did not were not made.
It is possible that those inmates who chose not to participate are those that are more maladjusted.

Finally, a number of limitations can be found when considering the concepts of deprivation and importation, as well as the variables that have been used to test these models. First, the deprivation model is based on the assumption that inmates perceive the prison environment to be depriving and lacking in some way. An investigation of the variables included under this domain appear to focus on beliefs about the future and do not necessarily adequately capture whether or not these individuals feel that their beliefs are directly related to the "depriving" effects of incarceration. Similarly, the theory of deprivation seems to suggest that environments that are considered to be more limiting and secure should lead to more difficulty with adjustment. However, significant differences in prisonization levels or adjustment across the four types of institutional environments were not found. One possibility for this finding may be that measures of deprivation previously applied could potentially have low reliability estimates or may not validly measure the construct under study.

Furthermore, previous research has attempted to measure the influence of only one half of the assumptions made by proponents of the importation model. The present study attempted to investigate the influence the second half of that model by incorporating measures of personality. However, one limitation of the present study is its lack of inclusion of previously measured variables within this model, again leading to only one half of the model being accounted for. Additionally, when investigating both models, it is possible that previous and current research has failed to include
variables that may account for further explained variance in adjustment and prisonization.

**Areas for Future Research**

The specified structural model in the present study suggests a need for further research investigating the construct of adjustment within a prison setting. Several studies have found an association between the importation and deprivation models of inmate adaptation and prisonization (Giallombardo, 1966; Hefferman, 1972; Jensen, 1977; Jones, 1976; Kruttschnitt, 1981; Thomas, Petersen, & Zingraff, 1978; Ward & Kassebaum, 1965). The association, as specified in previous studies, was not replicated in the present study. Additionally, the relationship between adjustment measures and prisonization remains unclear. Clemmer (1950) originally hypothesized that the level of prisonization would be directly related to an inmate’s ability to adapt and adjust to a prison setting due to one’s experience of being exposed to the “pains of the prison environment.” This finding suggests that deprivation as a construct may be more complicated. Part of the variance in deprivation that is not accounted for by maladjustment may be accounted for by prisonization. However, no relationship was found between prisonization and perceived distress in the current study. Future research studies are needed to clarify the discrepancies between the present study and previous research in this area. Studies incorporating multivariate statistical methods are recommended, as many of the previous studies in this area have employed univariate correlational methods, possibly limiting the understanding of the processes of adjustment and prisonization.
A number of limitations previously discussed incite a need for further development of the instrumentation used. The Prisonization scale was found to have the lowest measure of internal consistency. Previous studies (Paterline & Petersen, 1999; Winfree, Mays, Crowley, & Peat, 1994) have cited using Thomas and Zingraff’s (1976) prisonization items but have not included a discussion of any alterations to the instrument that may have been made or any psychometric properties of the scale. The development of accurate measures of prisonization are needed if this construct is to be fully understood. Similar limitations are found with the Powerlessness scale and the Postrelease Expectations scale and a thorough investigation of the properties of this entire instrument are called for. Furthermore, lack of published studies using the Perceived Distress Scale and the Coping Style Inventory as a whole lead to a need for further development of this instrument. The original normative sample (Bellah & Milford, 1998) and many of the subsequent studies using the CSI (Bellah & Milford, 1998, Bellah, Milford, Velarde, & Peevy, 1998a; Bellah, Milford, Velarde, & Peevy, 1998b; Velarde, Donnell, & Peevy, 1998) have utilized a college student sample, possibly limiting the generalizability to a specific type of population. Thus, a need exists for future research in the standardization of the CSI and the PDS scale in other settings, particularly prison and psychiatric population. A possible regional and gender bias inherent in the data warrant the need for future studies that not only include different types of populations, but from different geographical regions and including female participants.

The present study is one of three studies found investigating the influence of personality factors on adjustment to incarceration (Boothby, 2001; Paterline & Peterson,
Boothby (2001) also examined the factors that may influence adjustment to incarceration, as well as the different ways that individuals attempt to cope with stressful circumstances. That study found that, although coping strategies were not related to prisoner disciplinary problems, certain passive coping strategies were associated with increased distress. Further research is needed to clarify the role that personality has on the concept of adjustment and coping within a prison setting. A continued need exists for the development of appropriate screening measures for the development of possible maladjustment and levels of prisonization.

Conclusions that may be drawn from this study suggest that the variables included under the deprivation and importation models of inmate adaptation do appear to be associated with the concepts of prisonization and adjustment. However, results of this study suggest that the directions of these associations may differ from those previously hypothesized in earlier research studies. The use of structural equation modeling provides a multivariate method of dealing with multiple relationships among variables simultaneously while providing statistical efficiency (Hair et al., 1994). Use of this method also corresponds to greater efforts in all fields of study toward the development of a more systematic and holistic view of problems. Combining a family of theoretical formulations with modern day structural equation modeling techniques may provide a first step toward a thorough and concise theoretical understanding of the factors influencing the development of prisonization and adjustment within a prison population.
APPENDIX A

LOUISIANA TECH IRB APPROVAL FORM
MEMORANDUM

TO: Lisa D. Velarde
   Mary M. Livingston
FROM: Deby Hamm, Graduate School
SUBJECT: HUMAN USE COMMITTEE REVIEW
DATE: May 4, 2001

In order to facilitate your project, an EXPEDITED REVIEW has been done for your proposed study entitled:

"Living in prison: evaluating the deprivation and importation models of inmate adaptation"
Proposal # 1-VL

The proposed study procedures were found to provide reasonable and adequate safeguards against possible risks involving human subjects. The information to be collected may be personal in nature or implication. Therefore, diligent care needs to be taken to protect the privacy of the participants and to assure that the data are kept confidential. Further, the subjects must be informed that their participation is voluntary.

Since your reviewed project appears to do no damage to the participants, the Human Use Committee grants approval of the involvement of human subjects as outlined.

You are requested to maintain written records of your procedures, data collected, and subjects involved. These records will need to be available upon request during the conduct of the study and retained by the university for three years after the conclusion of the study.

If you have any questions, please give me a call at 257-2924.
APPENDIX B

BUREAU RESEARCH REVIEW BOARD APPROVAL
MEMORANDUM FOR LISA VELARDE, PSYCHOLOGY INTERN
FCI BUTNER

FROM: Gerry G. Lees, Chair
Bureau Research Review Board

SUBJECT: Research Project

I am pleased to inform you that your research proposal has met the requirements of the Bureau Research Review Board (BRRB). Your copy of the official approval letter is attached. According to our regulations, if there are any substantive changes in the project, you must inform the BRRB immediately. Furthermore, the project approval expires in one year, and, at that time, you will need to submit either a progress report or a report of findings. We will contact you in advance of the expiration date with more information. If you have any questions, you may call Caroline Miner at (202) 307-3071, extension 123. We wish you every success with your research project.

cc: Bernadette Pelissier, FCC Butner Research Committee Coordinator

January 29, 2001
APPENDIX C

HUMAN SUBJECTS CONSENT FORM
Appendix C

HUMAN SUBJECTS CONSENT FORM

The following is a brief summary of the project in which you are asked to take part in. Please read this information before signing the statement below.

TITLE: Living in Prison: Evaluating the Deprivation and Importation Models of Inmate Adaptation

PURPOSE OF STUDY/PROJECT: To study the importance of personality variables and other factors on an individual’s adjustment to incarceration.

PROCEDURE: Participants will voluntarily complete a packet of self-report inventories. Data will be analyzed to determine the relationship among these variables. No compensation or incentives will be given. Individuals who do not wish to complete the questionnaires will be dismissed from the testing area.

INSTRUMENTS AND MEASURES TO INSURE PROTECTION OF CONFIDENTIALITY/ANONYMITY: The instruments used to collect data for this study are personality and coping inventories and a measure assessing attitudes toward the institutional environment. All information will be held confidential.

RISKS/ALTERNATIVE TREATMENTS: Participation in this study is voluntary. There are no risks associated with participation in this study.

BENEFITS/COMPENSATION: None

I, ____________________________, demonstrate with my signature that I have read and understood the following description of the study, “Living in prison: Evaluating the deprivation and importation models of inmate adaptation”, and its purpose and methods. I understand that my participation in this research is completely voluntary and my participation or refusal to take part in this study will not affect my relationship with FCC-Butner, my status as inmate, or my release date in any way. I may withdraw from the study at any time or skip over any items without penalty. Further, I understand that I can ask questions regarding this study or my participation in this study. I understand that the individual or identifiable data from my survey will be unknown to others and will be kept confidential. My results will be accessible only to the principal researcher, myself, or a legally appointed representative. I have not been requested to waive nor do I waive any of my rights related to participation in this study.

Signature of Participant: ____________________________ Date: __________________

CONTACT INFORMATION: The principal researchers listed below may be reached to answer questions about the research, subjects’ rights, or related matters:

Lisa Velarde (primary researcher) (919) 575-4541 ext. 3657
Mary Margaret Livingston, Ph.D. (dissertation chair) (318) 257-2292

The human subjects committee of Louisiana Tech University may also be contacted if a problem cannot be discussed with the researchers.

Dr. Terry M. McConathy (318) 257-2924
Dr. Don Wells (318) 257-4088
APPENDIX D

ORGANIZATIONAL STRUCTURE AND PRISONIZATION SCALE
Appendix D

Organizational Structure and Prisonization Scale

Instructions: Following are some statements with which you may agree or disagree. Underneath each statement, please circle the symbol that best represents your position or feelings about the statement.

<table>
<thead>
<tr>
<th>Symbol for each statement</th>
<th>Feeling</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>A</td>
<td>Agree</td>
</tr>
<tr>
<td>N</td>
<td>Neutral (Neither Agree nor Disagree)</td>
</tr>
<tr>
<td>D</td>
<td>Disagree</td>
</tr>
<tr>
<td>SD</td>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

1. People can do almost anything in this country if they work hard enough.

SA    A    N    D    SD

2. The average citizen has a good deal of influence on the things that happen to him.

SA    A    N    D    SD

3. The world is run by a few people in power and there's not much people like me can do about it.

SA    A    N    D    SD

4. Whether you like it or not, chance plays an awfully large part in what happens to all of us.

SA    A    N    D    SD

5. You can't help feeling helpless when you see what's going on in the world today.

SA    A    N    D    SD

6. An average citizen can have an influence in things like government decisions if he makes himself heard.

SA    A    N    D    SD

7. It is only wishful thinking to believe that a person like me can have an influence in the world today.

SA    A    N    D    SD
8. We’re allowed to make a lot of decisions for ourselves here (in this prison).

9. You can’t help feeling like a caged animal in a place like this.

10. None of us have any influence on how we’re treated here.

11. There’s really not much I can do about what happens to me here.

12. Nobody at home cares whether I live or die anymore.

13. So many bad things have happened to me that the future doesn’t look good for me when I go home.

14. I’m confident that things will be better for me when I leave here.

15. My family and friends have just about given up on me.

16. The people I knew before I came here well still respect me when I go home.

17. I don’t think that having been here will hurt my chances for getting a good job after I get out.

18. I think people will give me a fair chance when I leave as long as I stay out of trouble.

19. People on the outside believe that anyone who has been here is bound to get into trouble again.
20. Being sent here has ruined my whole life.

21. I'm afraid to face the people I knew on the street when I get out.

22. Most people on the outside don't give someone who has been here a fair chance.

23. The other guys are right when they say, "Don't do anything more than you have to in here."

24. It's better to tell the staff what they want to hear than to tell them the truth if you want to get out soon.

25. It's a good idea to keep to yourself in here as much as you can.

26. I probably spend more of my free time talking with people on the staff than most of the other guys do.

27. Anyone who talks about his personal problems with people on the staff is weak.

28. I try to stay out of trouble but nobody is going to push me around and get away with it.

29. I have more in common that people on the staff than I do with most of the guys.

30. When a guy deals with staff, he should stick up for his beliefs and not let the staff tell him what's good and what's not.
Note. Scale 1 (Powerlessness) = Items 1 - 11; Cronbach's Alpha = .72; Factor Loading on Deprivation = -.24; Scale 2 (PostRelease Expectations) = Items 12 - 22; Cronbach's Alpha = .70; Factor Loading on Deprivation = -17.42; Scale 3 (Prisonization) = Items 23 - 30; Cronbach's Alpha = .57
APPENDIX E

PERCEIVED DISTRESS ITEMS
Appendix E

Perceived Distress Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Never True (n)</th>
<th>Rarely True (r)</th>
<th>Sometimes True (s)</th>
<th>Often True (o)</th>
<th>Always True (a)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.</td>
<td>(n)</td>
<td>(r)</td>
<td>(s)</td>
<td>(o)</td>
<td>(a)</td>
<td>I feel happy and content.</td>
</tr>
<tr>
<td>02.</td>
<td>(n)</td>
<td>(r)</td>
<td>(s)</td>
<td>(o)</td>
<td>(a)</td>
<td>I feel tired and weak.</td>
</tr>
<tr>
<td>03.</td>
<td>(n)</td>
<td>(r)</td>
<td>(s)</td>
<td>(o)</td>
<td>(a)</td>
<td>I feel emotionally calm and relaxed.</td>
</tr>
<tr>
<td>04.</td>
<td>(n)</td>
<td>(r)</td>
<td>(s)</td>
<td>(o)</td>
<td>(a)</td>
<td>I feel miserable and unhappy.</td>
</tr>
<tr>
<td>05.</td>
<td>(n)</td>
<td>(r)</td>
<td>(s)</td>
<td>(o)</td>
<td>(a)</td>
<td>I feel tense and stressed.</td>
</tr>
<tr>
<td>06.</td>
<td>(n)</td>
<td>(r)</td>
<td>(s)</td>
<td>(o)</td>
<td>(a)</td>
<td>I feel comfortable and relaxed.</td>
</tr>
<tr>
<td>07.</td>
<td>(n)</td>
<td>(r)</td>
<td>(s)</td>
<td>(o)</td>
<td>(a)</td>
<td>I feel hopeful about my future happiness.</td>
</tr>
<tr>
<td>08.</td>
<td>(n)</td>
<td>(r)</td>
<td>(s)</td>
<td>(o)</td>
<td>(a)</td>
<td>I feel sad and depressed.</td>
</tr>
<tr>
<td>09.</td>
<td>(n)</td>
<td>(r)</td>
<td>(s)</td>
<td>(o)</td>
<td>(a)</td>
<td>I feel joy and excitement in my life.</td>
</tr>
<tr>
<td>10.</td>
<td>(n)</td>
<td>(r)</td>
<td>(s)</td>
<td>(o)</td>
<td>(a)</td>
<td>I feel anxious or fearful.</td>
</tr>
</tbody>
</table>

*Note.* Cronbach’s Alpha of PDS = .89
REFERENCES


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